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of the

Michigan State Medical Society

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CONTENTS

Chairman's Address. J. M. Robb, M.D., F.R.C.S.E. ... 1
The Group Practice of Medicine. Walter L. Finton, M.D. ... 3
The Internist's Conception of Bronchial Asthma. Frank R. Menagh, M.D. ... 6
On the Incidence of Bovine Tubercle Bacilli in Humans. Clarence A. Ryan, M.D., C.M., and Marie Voldrich ... 11
Tuberculosis in Children. Henry D. Chadwick, M.D. ... 15
Diagnosis and Treatment of Pulmonary Tuberculosis in Childhood. Daniel Budson, M.D. 19
Discussion on papers by Dr. Henry D. Chadwick and Dr. Daniel Budson ... 22
Gall Stone Intestinal Obstruction. G. J. Curry, M.D., F.A.C.S. ... 24
Medical Impressions of Soviet Russia. Joseph E. G. Waddington, M.D., C.M. ... 25
Cutis Marmorata or Livedo Reticularis (Marble Skin) with Case Report. Noah E. Aronstam, M.D. ... 28
Michigan's Department of Health. C. C. Slemons, M.D. ... 30
Famous Men in Medical History: Oliver Wendell Holmes. Philip Q. Roche, M.D. ... 34
Of General Medical and Surgical Interest ... 40
Editorials:
The President's Greetings ... 41
Antivivisection ... 41
The Laboratory Again ... 42
"Graves, Worms and Epitaphs" ... 43
The Uplifter ... 43
Common Colds ... 44
May County Medical Societies Practice Medcine? ... 44
A Moratorium on Doctors' Bills ... 45
Spinal Anesthesia ... 45
Samthing Wrang Wi Thae Free Clinic ... 46
Communications ... 47
General News and Announcements ... 48
Society Activity ... 50
County Societies ... 53
Woman's Auxiliary ... 58
The Doctor's Library ... 59

CHAIRMAN'S ADDRESS*

J. M. ROBB, M.D., F.R.C.S.E.†
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The chairman is allowed a somewhat widelatitude, not only in the subject of his address, but also in the method of handling it. Otolaryngologists all over the country have been as active as we have been in the study of their scientific problems and it goes without saying that this activity has been productive of results that are more or less gratifying. It is not my object to go into detail in the way of a review of the accomplishments of our specialty during the last year which ordinarily would be a chairman's duty.

In doing this, the subject might be discussed best from the following viewpoints:

(1) The approval of routine procedures.

(2) The re-establishment of confidence in certain practices in medicine that for no good reason have been more or less discarded.

(3) The adoption of late developments which have been tried but not seasoned.

*Chairman's address before the section on Otolaryngology at the 110th Annual Meeting of the Michigan State Medical Society, Benton Harbor, September 15–17.

†Dr. Robb graduated from the Detroit College of Medicine in 1908. He spent two years as intern in Harper Hospital. He also took extensive post-graduate work at Vienna, also at Edinburgh, Scotland, obtaining from the University of Edinburgh the degree of F.R.C.S.E. He is on the staff of both Harper and Receiving Hospitals, Detroit, and at the present time is President of the Wayne County Medical Society.

(4) Watching for innovations on the horizon of our specialties.

With this as an outline much could be concisely evolved, but since time does not permit, I leave these suggestions with you for your personal consideration.

I have chosen to present a rather unusual case, one occasionally seen but frequently unrecognized. It is a case of pharyngo-maxillary abscess arising from an ear infection. I shall also discuss radiopaque oil in sinus disease. It is rather fortunate to be able to present this case, since Dr. Iglauer is considering later in this program the problem of deep suppuration of the neck as it may stimulate our interest in this timely subject. It would seem from our experience last year with a case of spreading osteomyelitis of the skull, that the living specimen gives the more lasting impressions. That case excited considerable comment. One of the first questions the young lady who is reporting this section this year asked me was, "How is the boy with the spreading osteomyelitis of the skull?" I am happy to say to you and to her that he is perfectly well. That is the sort of case we remember and this case today is also one which we will remember.

This patient developed a cold, then a middle ear abscess. Two weeks later he presented some evidence of mastoid disease with tenderness of the mastoid process, temperature approximately 102 degrees F., total white blood cell count 15,000. There was some swelling between the tip of the mastoid and the angle of the jaw, recognizable chiefly because an examination of the pharynx showed some fullness over the area of the ptero-mandibular ligament. This aroused our suspicion of a pharyngo-maxillary abscess in conjunction with a mastoid. There was also a definite trismus of the jaw with deviation toward the affected mastoid. A mastoid operation was performed with characteristic involvement. A transverse incision about the level of the angle of the jaw was made, the posterior belly of the digastric muscle was exposed and blunt curved Mayo scissors was passed upward beneath the muscle into the pharyngo-maxillary space with the escape of about two or three drams of pus. A drain was inserted. The result has been complete, both spontaneous and operative.

I have had similar cases arise following infections of the teeth, the maxillary sinus and the tonsils.

RADIOPAQUE OIL IN SINUS

The second subject upon which I wish to touch is the matter of coöperation with those engaged in other fields or specialties than our own; this time, the roentgenologist. There is probably no better method of studying anatomy in the living than by the X-rays. By the X-ray method we have our patient as nearly normal as possible whether the subject of investigation is gastro-intestinal tract, the heart, or the lungs. Opaque media for the examination of hollow organs or viscera have been in use almost from the time of the discovery of the X-rays when bismuth subnitrate was employed in the visualization of the alimentary tract.

But as otolaryngologists, we are interested particularly in the diagnosis of pathological conditions affecting the cavities of the skull. I wish to confine my remarks at this time to the diagnosis of abnormalities in the maxillary sinuses. For this, there is probably no more satisfactory method than the employment of an opaque medium such as an iodized or brominized oil.

I might mention that the use of halogenated oils for diagnostic purposes is not absolutely recent. Their introduction into X-ray work has been based upon the studies of Sicord and Forrestier, of Paris, who used them, particularly lipiodol, for the visualization of certain body cavities. Forrestier, who was a visitor to Detroit on two occasions, demonstrated his results in studies of the bronchial tree, the spinal canal and Fallopian tubes. Tabern, Hansen, Volwiler, and Crandall have carried on a fairly extensive investigation of these oils and have concluded as follows:

"A rather extensive series of halogenated oils has been prepared and studied chemically, pharmacologically, and clinically.

"Brominized oils, particularly brominized olive oil and the brominized esters obtained from olive oil, have been found to possess distinct advantages over the iodized oils in use; the brominized oil and olive oil esters are much more stable, have controllable viscosities without loss of radiopacity, are economical to manufacture and use, low in toxicity, and, of course, cannot cause iodism.

"Pharmacological experiments have shown that brominized olive oil is definitely

less irritating to the pericardium and pleura than the iodized oils now in common use. Brominized olive esters are more irritating than brominized olive oil, but are not more irritating than the iodized oils.

"Clinically, these two products—33 per cent brominized olive oil and 33 per cent brominized olive ethyl esters—have proved valuable and effective as contrast media in radiology, and appear to possess a number of practical advantages over the products heretofore in use."

I have used both lipiodol and brominol diluted to one-half to one-quarter of full strength preparatory to having X-ray examinations made of the sinuses. We are enabled thereby to study in the first place any antral bone disease by our ability to obtain a clear line or space of demarcation between the opaque medium and the bone itself. We are able likewise to study the condition of the mucosa of the antrum in as many directions as we care to make X-ray exposures. Usually two exposures are made; a lateral and a postero-anterior, although exposures may be made at any other required position. The radiographs are made for obvious reasons with the patient sitting in the upright position. It has been my custom to examine one antrum at a time so as to avoid superimposing one shadow or silhouette over the other in the making of plates in the lateral position when both antrums are injected with the opaque oil.

A normal antrum will show the mucosa or muco-periosteum as a thin line of even and uniform width between the opaque medium and the bony wall of the antrum. Antrum pathology when present is described in terms of "filling" defects, using the same expression as roentgenologists have long been accustomed to use in describing conditions which affect the contour of the stomach. Not only have we been able to detect clearly a thickened muco-periosteum as an evidence of chronicity but it is possible to show polyps and evidence of polypoid degeneration with the utmost exactness.

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For a splendid discussion of Deep Cervical Abscess and Thrombosis of the Internal Jugular Vein by Dr. Harris Peyton Mosher, see Laryngoscope, Vol. XXX, page 360.

THE GROUP PRACTICE OF MEDICINE*

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Repeated inquiries on the part of physicians concerning the so-called "group practice" of medicine has suggested that perhaps a few facts on the subject might be of interest. Up to the time of Pasteur and Lister a single individual was capable of mastering the existing knowledge of medicine and of doing full justice to the needs of his patients. Shortly after our Civil War the advances made in medicine and the allied sciences were so great that one man was no longer able to keep well posted on the progress of medical knowledge, so certain physicians began to devote their time and energy to the study of diseases in a limited medical field. The otologists were the first medical specialists, organizing the American Otological Society in 1866. The neurologist next appeared, to be followed soon after by the gynecologist and the various others since. The family physician at first looked with suspicion upon the specially trained medical man, but eventually learned to turn to him when occasion demanded.

The subdivision of medical knowledge often made it necessary for a patient with an obscure ailment to consult a number of different physicians. The various specialists to whom a patient would be referred might have offices in the same building, but usually they were more or less widely separated.

While these doctors soon began to call their refer system a "Group System," the patients not infrequently called it something much less complimentary, for not only were they put to great effort and loss of time, but the aggravation of getting a number of separate bills, and never being exactly certain whether or not the total cost had been finally settled, made the system anything but satisfactory to the patient.

*Chairman's Address Surgical Section, 111th Annual Meeting Michigan State Medical Society. Benton Harbor, September, 1930.

†Dr. Finton graduated from the University of Michigan in 1907, interned for one year, and was Assistant Surgeon one year (1907-1909) at the Northern Pacific Hospital, Brainerd, Minnesota. He is Chief Surgeon for the Consumers Power Company and co-founder of the Jackson Clinic.

Prompt reports and the correlation of findings were difficult. It is a well known fact that written reports alone are hardly ever as satisfactory as when supplemented by personal contact and conferences between the consultants.

HISTORY OF GROUP CLINICS

No one knows who first formed a bona fide medical group, but a few have existed for more than half a century. We are all familiar with the larger group clinics of America, two or three of which have become world famous. About twenty years ago the group clinic system began to spread over the middle west and south, and more recently a few successful groups have appeared in the east.

As everyone knows, these clinics consist of a group of surgeons, internists, and other specialists uniting in a firm or corporation, occupying the same building, which as a rule is especially designed for the purpose. Here patients can conveniently, expeditiously, and economically be examined and treated. When they are through they receive a combined bill at the central office for all the services rendered.

More thorough examinations resulted in more accurate diagnosis, and of course more appropriate treatment naturally followed. There is a certain stimulus from working together, and mediocre medical work is less likely to appear, even in the hands of the careless or the lazy, if an associate is looking on or checking results. Frequent consultations will improve the minds of any group of workers.

Within a short time the group clinic has become as much an institution of this era as the well organized department store, with which it has some things in common. This comparison in no way reflects on the group clinic, for certainly the medical field today is susceptible of more organization. Better, much better, that we learn from big business the art of reducing costs, and economizing time and labor, than have big business take over the practice of medicine, even to the extent of rendering medical services to its own employees.

While all patients do not need combined medical opinion, it is probable that perhaps ten per cent or more are materially helped in this way. Now ten per cent gain or loss in the average business usually means the difference between success and failure. This increased help to the more difficult patient has resulted in rather wide and favorable publicity for the private clinic. Today, in 40 States there are about 400 group clinics,* which as a rule do the best work that is done in their respective communities. Their number decreased for a while, but they are now increasing.

A number of group clinics have failed or at least their members have ceased to function as a group. Financial disagreements and internal competition have been in most instances the rocks on which they have foundered. It is difficult for many to subordinate pronounced individualism to team work.

While it is true that the quality of medical work done by a clinic group will obviously depend upon the ideals, qualifications and ability of its medical staff, a group of well trained physicians actuated by the aims and ideals of better medical service to the community; in which patients are assigned to those members of the group best qualified to handle them; in which there is actual personal contact and consideration between members of the group and not merely written exchange of memorandum opinions, is in a position to render superior medical service and such a group should have a future of long service to the community.[1]

In the groups, it is customary for the doctor who originally takes charge of a patient to have the final talk with him after all examinations have been completed.

CRITICISMS AND DISADVANTAGES

A man, when he becomes a member of a Clinic Staff, loses in some degree his independence. In all his actions he will have to consider how what he may do will affect the interest of the Clinic. There has been considerable antagonism against the group scheme on the part of the outside medical profession. Becoming a member of a Clinic, while it tends to closer personal friendships within the organization, sometimes leads to a narrowing of the circle of acquaintances or even possibly the alienation of former friends. And unless a Clinic minimizes this danger by the adoption of a proper policy and the maintenance of a generous attitude toward the general medical profession, the members of its staff may suffer from professional isolation or even professional ostracism.[2]

*(In 1922, the A. M. A. listed 122 group clinics, while in 1925, the Modern Hospital Publishing Company listed 240.)

The mature professional man, who has achieved marked (financial) success cannot become a member of a Clinic with the expectation of immediately increasing the income that he previously earned in private practice. This was aptly stated a few years ago by Dr. W. J. Mayo at a clinic conference in Philadelphia. He said, "The man who joins a Group Clinic because he thinks he can make a better living easier is likely to be disappointed."

"Also for a miscellaneous group of medical men, often of about the same age, to put their offices together and agree on some sort of division of earnings—this is not group medicine but only an incubator for *early troubles coming in groups.*"

And further, "Our failures as a profession are the failures of individualism, the result of competitive medicine. A frank recognition of the necessity for coöperation is necessary." Group medicine tends to diminish individualism.

ADVANTAGES TO THE PATIENT

"If we accept it as conclusive that the science and art of medicine *have* become too large a field for one man to cover adequately, it must logically follow that the efforts of a group of men coördinated in one building, with continuity of study and observation, offer the individual patient a better opportunity for *correct diagnosis* than where the correlation of such findings is brought about by different offices, with annoying intervals of delay and the absence of personal conference and free exchange of thought in weighing the evidence."[1]

The coöperation of specialists in a private group clinic is *more economical* than separate action on their part. That there will be an appreciable percentage of negative findings in a large series of careful and complete examinations is true, but it is also true that not infrequently the unexpected findings are surprising.

That the close personal relationship of the family physician over a long period of years will be missing, to a certain extent, must be admitted. But on the other hand, absolute loyalty to the family doctor is getting rarer every day. Not long ago a well-to-do patient said to me, "While I would not offend Dr. So-and-So for the world, for he has been so good to us all these years, yet I just felt that he knew us so well that he did not make the thorough and complete examination that I wanted in this case, and so I made a change."

The human qualities of kindness and sympathy and deep understanding, along with energy, a sense of humor, and a pleasing personality, are just as important in handling patients in a Clinic as in private practice, and from numerous patients at one of the world famous clinics, I have heard the Clinic doctor spoken of in as glowing words of endearment as ever I have the family physician. Organization as a group does not of itself interfere with close and long continued relations between doctor and patient.

ADVANTAGES TO THE PHYSICIAN

The advantages a Clinic offers to members of its staff may be summarized as follows:

1. They have the satisfaction of knowing that they are able to offer a more adequate and higher quality of medical service to their patients and to their community than if they were practicing as individuals.
2. They get self-improvement more rapidly from close contact with other members.
3. They have better opportunity of attending medical meetings and conferences, and they can go away for post-graduate study or for vacation trips more easily with less break in the continuity of their work.
4. A physician in a group is less likely to undergo stagnation or sink into the rut of mediocrity and self-complacency, which is the probable sequence of professional isolation and the adoration of a circumscribed clientele.[1]
5. There is greater permanency of one's life work, for when one who works as an individual passes on, his work dies with him. If he has accomplished something as a member of a group, when he is through, his work is carried on by the organization. You are all familiar with striking examples of this. When the greatest of all surgical teachers, the late John B. Murphy, passed on, he left no one on whom his mantle might fall. That was a serious loss to the world. When the founders of the Mayo and Crile Clinics cease work, may we not prophesy that their institutions will carry on almost without apparent loss?

We may certainly accept it as conclusive that the science and art of medicine *have become* too large a field for any one man to cover adequately.

It must therefore be evident to most of

us that some sort of association or grouping *is necessary* today for any surgeon who aspires to do an appreciable amount of work. Just what kind of a group he will work with must, of course, be determined.

It is not necessary that a Group Clinic own or control a hospital, particularly if the organization has friendly relations with a modern Class A institution. As a rule it is better to let some one else assume the worries of running an institution for the care of the sick. And certainly no middle aged physician should risk his hard earned savings in such an enterprise.

SUMMARY

1. "The advantages and limitations of group medical practice must be determined by its contribution to the welfare of society, which includes both the medical profession and the sick."[4]

2. The establishment of a Clinic will not create patronage, but will merely give the members of its staff facilities to do better work, more conveniently, and efficiently. If the clientele grows, it will be for the same reason that the individual succeeds, namely, a recognition by the public and profession of a satisfactory service rendered.[2]

3. Group medicine is economically sound for many reasons: overhead expenses are pooled; extensive equipment is provided but not unnecessarily duplicated, as when physicians practice alone; they purchase supplies in quantities and cheaper; professionally and scientifically it brings together, as collaborators, groups of men of special knowledge in various fields and makes them readily available.

4. Group medicine promises the most economical as well as the most expert type of treatment.

5. The future should see more groups and less single handed practice of medicine. Group medicine shows great promise of becoming the medicine of the future.

When one has once experienced the supreme satisfaction of practicing medicine in a well organized group, he never desires to practice any other way.

6. Medicine today stands unique among the learned professions. In law, theology, and sometimes in engineering, the past overshadows the present. But in medicine, the future promises even greater than the past. Let us hope that the medical profession continues in the care of the sick, untrammeled either by corporate enterprise on one hand, or State medicine on the other. And it is possible that the spread of Group Clinics may help to solve the problem.

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THE INTERNIST'S CONCEPTION OF BRONCHIAL ASTHMA*

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It has now been more than ten years since the series of papers published by Walker emphasized a new point of view in the diagnosis and treatment of bronchial asthma. A new interest in the subject was stimulated by the work of Walker and others, and since that time much has been written and many points of view brought forward. Today the physiological basis of bronchial asthma is still unknown and the relative importance of various etiological factors a matter of debate. Much work of importance is being done on the subject of allergy and eventually some of the basic problems may be solved. How this may affect our clinical point of view is a matter of conjecture. In the meanwhile much experience has been gained in the practical care of bronchial asthma and it is this phase of the problem, rather than the various theories as to its cause, that I wish to discuss.

Most workers in this field have obtained the best results by assuming that bronchial asthma is the clinical manifestation of an allergic process affecting the lungs. This is

*Presented at the 109th Annual Meeting of the Michigan State Medical Society, Jackson, Michigan, September 17, 18, 19, 1929.

†Dr. Menagh is a graduate of the Medical Department of Johns Hopkins University. He is at present a member of the medical staff of the Henry Ford Hospital.

due to edema of the mucous membrane, constriction of the musculature of the bronchioles and to some extent the increased secretion of a thick viscous mucus. Whatever the mechanism that sets off this series of events, it is most convenient to consider that it is due to the absorption of a foreign protein to which the allergic individual has become sensitized. This leaves out of this group other forms of dyspnea that have often been classified as asthmatic. Cardiac asthma, if due to heart failure, would not fall in this group either for diagnosis or treatment. The so-called asthmatic bronchitis is either bronchitis or bronchial asthma, and, if it is asthma, would be considered as due to the absorption of a foreign protein.

If this fact, that the absorption of a foreign protein is necessary for the appearance of symptoms, is kept in mind, the attack, when confronted with a problem in bronchial asthma, can be summarized in three divisions:

(1) The immediate relief of symptoms;
(2) The search for and elimination of the responsible foreign protein; and,
(3) The general hygienic care of the patient.

In rank of importance we believe the second of these divisions comes first and will be first considered.

The foreign proteins commonly at fault are conveniently grouped under four headings, (1) Foods, (2) Animal Emanations, (3) Pollens, and (4) Bacterial Proteins. There are a few other foreign proteins that do not fall directly in these groups, as for instance, orris root, often found as an ingredient of face powders. Figley of Toledo has reported a number of cases due to dust from mills handling the castor bean, and it is possible that other localities may have their own special problem of this sort. House dust is considered of great importance by some. It is, of course, a mixture of all the foreign proteins that may get loose about the house and when it is impossible to determine exactly which material is the source of trouble this method may be of great help. Dust may be taken from a sweeper, extracted with an alkaline solution, as N/10 NaOH and sterilized with trikresol as is a vaccine. This material may then be tested by the scratch method or intradermally. I have never been convinced that non-protein substances, as cement, are the direct cause of bronchial asthma, although they may play a secondary rôle through irritation of the mucous membranes.

We are going over this familiar ground again because we feel that it is of great importance to remember that as long as there is asthma the absorption of some of these substances is taking place, and relief can best be obtained by eliminating them or rendering the patient less sensitive to them.

It has often been considered convenient to divide these proteins into two groups, extrinsic and intrinsic. From this point of view the extrinsic group will contain the proteins from foods, animal emanations and pollens, while the bacterial proteins, absorbed from sources mostly in the respiratory tract, make up the intrinsic group. In the 746 cases from the Henry Ford Hospital records that are considered here by Dr. Whitney and myself, 310 were of the extrinsic variety and 295 intrinsic. That this distinction cannot be too sharply drawn is shown by the fact that 124 cases were found to be sensitive to proteins in both groups and presumably to be deriving their symptoms from both groups.

The methods for performing the tests for hypersensitiveness are familiar to all. While considering tests for foreign protein it must be remembered that allergic individuals do not always show positive skin reactions to foreign proteins to which they may actually be sensitive. This is especially true of an asthmatic who is having attacks of asthma. Skin tests, especially by the scratch method, often are completely negative at this time. Intradermal injections of the protein will sometimes give a positive test but even with this method negative reactions may result with positive findings later. For this reason the most careful attention should be given to the history obtained, of possible sources for the asthma, even if skin tests do not at once confirm this. Likewise if clear-cut evidence is found that an asthmatic is susceptible to some of the extrinsic proteins, the possibility that there is a coexistent intrinsic source must not be overlooked. This is true even in small children.

In case the patient is found to be sensitive to any of the extrinsic group, obviously the simplest form of treatment is to remove this protein if possible. Such foods in the case of adults can usually be easily removed. In the case of small children who are sensitive to a group such as wheat, milk, and eggs, this may be difficult. In some cases

prepared foods, as powdered milk, may be sufficiently changed to allow them to be taken without developing symptoms. When animal emanations are the source of trouble they can usually be removed if due to feather bedding, pets, and such sources. It is sometimes found that a baker is sensitive to wheat through inhalation of flour, or a farmer to horse dander. In such instances it is worth while to attempt a relative desensitization by administering extracts of these substances. Asthma from pollen proteins is always best treated by this means, the method being identical with that used in the treatment of hay fever.

The principles just set forth for the investigation of the extrinsic types of asthma are widely accepted and used in treatment. When we turn to the intrinsic group, however, there is no such unanimity and considerable confusion exists as to what can and should be done for this group of patients. This is the group that has often been resistant to treatment, and when it is considered that more than half of the asthmatics fall in this category; their proper care is seen to be of considerable importance. Our course becomes somewhat clearer if we still maintain that if there is asthma there must be absorption from some source, of a protein substance to which the patient is sensitive. If there is asthma and it is intrinsic, the chances are greatly in favor of the source being some infection in the respiratory tract. A study (1) made of other foci than those in the respiratory tract, particularly the gastro-intestinal tract, shows that they are rarely found to be the source of asthma. If our thesis that asthma is due to foreign protein is true, the protein in these cases must come from the bacteria present. From a clinical point of view this is a satisfactory assumption. The best method of investigating these proteins is through the agency of autogenous vaccines. Here again there has been much controversy as to whether the vaccines actually represented specific proteins. We believe that they are as specific as any of the extrinsic proteins and our experience has been that, properly used, they have with reasonable consistency pointed the way to the proper etiology in intrinsic asthma and have aided materially in its treatment.

There has at times been a distinction made between intrinsic asthma due to bacterial infection and intrinsic asthma due to the so-called nasal reflex. That irritation in the nose may cause asthma is unquestioned, but that a non-bacterial irritation actually does bring on attacks of asthma frequently has not been our experience. In the treatment of irritation in the respiratory tract causing asthma, the best approach is that one that assumes that the irritant is bacterial in nature. Spurs, polyps, and other obstructions to proper nasal drainage are of importance principally because of their association with nasal infection.

In practice the study of the intrinsic group of asthmatics includes a general history and physical examination. The usual tests for hypersensitiveness to foreign protein are done. In 121 out of 746 cases extrinsic proteins were found to be a factor in addition to the intrinsic proteins. Such findings are always of value, in many cases giving early evidence that we are at least dealing with an allergic individual. In the same way a history of other allergic manifestations or of a family history of allergy are of importance. In the intrinsic group, a history will often be obtained that asthma first made its appearance in association with an acute respiratory tract infection. Sometimes the asthma occurs only under such circumstances, the patient being free of symptoms between infections. Another common history is that following a seasonal hay fever or asthma, particularly the ragweed or fall type, the symptoms do not clear up when the pollen disappears. Asthma may persist for a few weeks and disappear. The next season the asthma will persist for a longer period and finally from a seasonal hay fever a non-seasonal bronchial asthma will develop. The basis for this is always an increasing respiratory tract infection and an increasing intolerance on the part of the patient to the proteins characteristic of the infecting bacteria. This intolerance on the part of the patient is always an important factor and is associated with the variation in the rate of absorption of the foreign protein. Due to these variable factors, a patient may have severe attacks of bronchial asthma and then have all symptoms disappear with a respiratory tract infection that apparently has changed in no way during the entire cycle.

When it becomes apparent that we are dealing with an intrinsic type of asthma, then special attention must be paid to the respiratory tract. Too much information

cannot be obtained about it. The study will naturally divide itself into two parts: first, the upper respiratory tract including the nose and throat and paranasal sinuses; and, second, the lower respiratory tract. As soon as possible, cultures should be obtained from all suspected regions. The cultures from the nose and paranasal sinuses will not show as high a percentage of positive results as might be expected. It is surprising how often negative cultures result from sinuses that are obviously infected. Clinical experience has shown that the most satisfactory cultures and subsequently autogenous vaccines are obtained from the sputum. In obtaining cultures of sputum for vaccine preparation, some care must be exercised. Only plugs of typical thick, tenacious, jelly-like material should be obtained. Only one of these should be collected in a sterile container. Specimens consisting of a bottle half full of a fluid partly sputum and partly saliva that has stood for any length of time are worthless. The best specimens are usually obtained on arising in the morning and should be taken to the laboratory for culture with the least possible delay. When available, the patient should be tested intradermally with these vaccines, which should be prepared with each organism obtained in a separate vaccine. Careful controls should be used. When under these circumstances definite positive reactions are obtained, they serve to show that such patients are allergic and that they are sensitive to the proteins from bacteria that are present in the respiratory tract. It is reasonable to assume that such bacterial proteins are responsible for the bronchial asthma.

I do not mean to over-estimate the importance of autogenous vaccines at this stage of the study. They are of diagnostic importance only, and, as their preparation requires from one to two weeks, other methods of diagnosis and treatment should be vigorously pushed. This is especially true of the group having their focus of infection in the upper respiratory tract. It has been our experience that asthmatics with infection in the paranasal sinuses, or throat, require the attention of a rhinolaryngologist who has a definite interest in the special problems presented by this class of patients. The usual care in such cases does not always suffice and the interests of the patient are best served when there is the closest coöperation between the internist and the rhinolaryngologist. Many patients may be relieved by operative procedures on the nose or throat alone and many may be relieved without the assistance of surgery, but the best results are obtained in any series of cases when both internist and rhinolaryngologist actively coöperate in every case of intrinsic asthma. The surgical point of view in this connection will be presented by Dr. Whitney.[2] It will suffice for me to say that any treatment of asthma is apt to be worthless if foci of infection in the upper respiratory tract are allowed to persist. They should be removed in every instance and should be removed as early as possible. On the other hand, it has not been our experience that patients can be promised relief from asthma through operative procedures alone, although in some cases this is all that is necessary. In many cases the asthma recurs, but with the removal of the infection other methods of treatment that before were useless become effective. Even the removal of infected tonsils may be important, for, although they may not be themselves directly responsible for the asthma, they may be a factor in the persistence of a bronchitis that is causing asthma.

Let us assume then that we are dealing with a problem in bronchial asthma, that the patient has been shown to be allergic and that all foci of infection that can be removed have been so cared for. The patient still continues to have attacks. What should next be done?

It must be remembered that especially in the nose and throat operative procedures are apt to be done for the improvement of drainage rather than to bodily remove the infected area. It is surprising at times what mild infections will keep up attacks of asthma. It is necessary, sometimes for long periods, to continue local treatment to the upper respiratory tract. This is to keep open the drainage tracts and to combat the infection itself. This should be carried out under the supervision of the rhinolaryngologist.

When the infection has been reduced to a minimum, it then becomes possible to effect a worth-while increase in this tolerance of the patient through the use of properly selected vaccine therapy. When autogenous vaccines are available to which the patient gives a definite reaction, good results are often obtained through their administration. It is worthless to give them in the face of any considerable amount of infection and in

our experience good results are not to be expected unless the patient is sensitive to the proteins they represent.

Chronic bronchial asthma is frequently associated with chronic bronchitis. This bronchitis may in turn be influenced by upper respiratory infection and in many instances is the direct cause of the asthma. With the surgical removal of these foci, the bronchitis frequently improves and can be further helped through the use of inhalations, postural drainage and expectorants. Bronchitis is often benefited by the use of autogenous vaccine.

The well-being of the individual is an important factor in his resistance to infection. Fatigue is frequently the cause of a poor response. This may be general fatigue from over-exertion or it may be local tissue fatigue, due, for example, to the constant living in heated rooms with a low relative humidity. The benefits of southern winter resorts are probably due more to the escape of the patient from the constant hot dry air of most of our homes and offices, than it is to the escape from cold. Every effort should of course be made to protect the asthmatic from epidemic respiratory tract infections.

The diet is of importance aside from any specific hypersensitiveness to food. Overloading the gastro-intestinal tract should be avoided, as should constipation. With other factors cared for, colonic irrigations are often of value. An adequate fluid intake should be insisted upon.

The question of immediate symptomatic relief in bronchial asthma is often a pressing one. The difference between such palliative measures and more fundamental ones designed to remove the underlying cause of the asthma should always be impressed upon the patient. The use of adrenalin and ephedrine needs no discussion except to say that they are safe when used with discretion. I do not believe that the hypodermic admistration of adrenalin by the patient himself is a good practice. When so used it is often considered a form of treatment in itself and is continued until it is no longer effective. Morphine should never be used except in an emergency. A patient who has been given morphine and adrenalin until they fail to give relief is often seriously ill and the greatest difficulty may be experienced in relieving a severe attack. When asthma of a degree necessitating adrenalin is present, every effort should be continuously made to remove the underlying cause.

An entirely empirical form of therapy is sodium iodide intravenously in 10 gram doses, 10% solution. This is harmless and sometimes very helpful.

CONCLUSION

If bronchial asthma is consistently considered to be due to the absorption of foreign protein and if the effort to find and remove this protein is unremitting, the great majority of these cases can be satisfactorily controlled.

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RELATION OF INFECTION OF EAR AND INFECTION OF INTESTINAL TRACT IN INFANTS

Many authors believe that infection in the mastoid antrum is the cause of acute intestinal intoxication in infants. The medical staff of the hospital believes that the type of the disease seen in Toronto is the same as that which exists in other parts of Canada and the United States. Study of the disease has been pursued seriously by D. E. S. Wishart, Toronto, for five years but for the last two years a large body of the workers have coöperated. Wishart says that the onset of the disease is rarely characterized by a "cold" and that the great majority of the infants were without any clinical evidence of an upper respiratory infection at the time they were toxic. Many infants remained without any ear infection throughout the whole course of the illness. Accumulations or infections found in the mastoid antrums of infants at autopsy are ante-mortem in origin. Both ear drums of many showed abnormality immediately preceding death. This change is an ante-mortem phenomenon due to forcible ejection up to the eustachian tubes. When mastoid infection exists, it is the result and not the cause of the child's lowered condition. Mastoid antrum puncture for diagnosis of latent mastoiditis is not to be recommended. Bilateral mastoid operation as a cure for the disease was a failure. Operation is to be postponed as long as possible. The autopsies of the two intensively studied series of cases of acute intestinal intoxication show that mastoid infection was not common. There was no correspondence between the bacteriology of the infection in the upper respiratory tract and that in the intestinal tract. Evidence is being accumulated to show that the disease is of intestinal origin. Wishart concludes that infection of the mastoid antrum is not the cause of acute intestinal intoxication in infants.—*Journal A. M. A.*

ON THE INCIDENCE OF BOVINE TUBERCLE BACILLI IN HUMANS

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The question whether the bovine type of tubercle bacillus may be responsible for the presence of the disease "Tuberculosis" in man, or whether the human type of the bacillus is solely to blame has been the subject of considerable research since Koch first demonstrated the tubercle bacillus. Even before that time the bovine type of tuberculosis was recognized, but many, among whom was Virchow, taught that there were two entirely different diseases: tuberculosis which resulted from contact with the disease in a human being, and a second disease which resulted from contact with this disease in animals. Twenty years later (1882) Koch[1] wrote that he considered the two diseases identical and it was not until 1901, three years after Theobold Smith[2] had established the differences between the human and the bovine type of the bacillus, that Koch finally agreed that tuberculosis in cattle was not the same as tuberculosis in humans, but even then he asserted that the bovine type did not seriously endanger humans. Ravenel,[3] in 1902, was the first to isolate the bovine type of the tubercle bacillus from a lesion in a human being; he recovered it from a child.

Koch's statement that the bovine type of infection does not endanger humans seriously can hardly be accepted in the light of the figures presented by Park and Krumwiede.[4] These authors state that before pasteurization of milk was carried out in New York City, 25 per cent of tuberculous lesions in children under 16 years of age were due to the bovine type of bacillus and that in patients over 16 years of age this type was responsible for 1.31 per cent of the cases. At this period also, 12 per cent of the deaths from tuberculosis resulted from bovine infection. The figures given by various authors of the percentage of bovine infection in man vary. Park and Krumwiede[4] also prepared a table showing the type of bacillus found in 1,511 cases. The report of these cases was collected from the various countries in Europe and also from the United States, including 478 cases of their own observation. Of these 1,511 cases, 137 were proven to be due to the bovine type of tubercle bacillus and of these, 76 were in children under 5 years of age, 46 in children between 5 and 16 years, and 15 were in patients over 16 years of age. This table is divided into 13 different headings, namely, lesions of pulmonary origin, axillary and inguinal adenitis, cervical adenitis, abdominal tuberculosis, generalized tuberculosis of alimentary glands plus meningitis, generalized tuberculosis with meningitis, tuberculous meningitis, bone and joint, genitourinary, skin, and miscellaneous (including tonsils, mouth and cervical glands, sinus or abscess, sepsis: latent bacilli). Of these various headings, tuberculous cervical adenitis comprises the largest group of cases. There were 134 patients studied in this group, of which 47 had bovine tuberculosis. One patient was over 16 years of age, 22 were between 5 and 16 years, and 24 were under 5 years of age. Generalized tuberculosis of alimentary gland origin plus meningitis had a bovine type bacillus in 62.5 per cent of the 16 cases studied and this group had the largest percentage of bovine type bacillus of any of the groups studied.

Kossel[5] in 1913 gathered the statistics of 27 different investigators representing many of the European countries (Germany, France, Hungary, Sweden, Holland, England and Italy) as well as Japan and the United States. His report deals only with chronic pulmonary tuberculosis, and he reports three cases of bovine bacilli and two of mixed human and bovine, in the 832 cases comprising his report. Therefore, although pulmonary tuberculosis is in the majority of cases due to the human type of tubercle bacillus, yet the bovine type is occasionally found. None of these three cases

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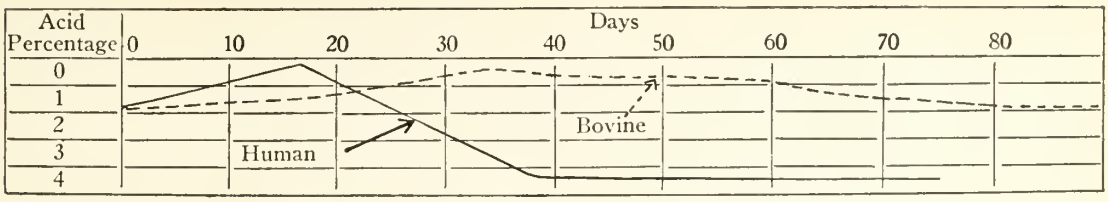
was found in the United States. Out of 311 cases which were reported from the United States, 310 were of human type, and in one the type could not be definitely established. In this connection the report of Munro[6] is interesting. In 1928 Munro stated that during the past five years 5 patients at Glenlomond Sanatorium had expectorated bovine bacilli.

In 1912 pasteurization of milk was started in New York State and since 1914 all milk, except certified milk, which is offered for sale in New York must be pasteurized. The death rate from non-pulmonary tuberculosis had steadily decreased from .27 per 1,000 population in 1914 to .12 per 1,000 population in 1925. More striking are the figures presented in the case of cervical adenitis. Before 1914 about 50 per cent of all tuberculous adenitis was caused by the bovine type of bacillus.[7] Since 1914 fifty cases have been studied by the Department of Health of New York City, and an incidence of bovine type tuberculosis of only 12 per cent found for this classification of lesion. Furthermore, of these 12 per cent, representing 6 children, 5 had come from outside of New York City and had been fed raw cow's milk, leaving only 2 per cent of bovine infection contracted in the city. In England the incidence of bovine tuberculosis is considerably higher than in the United States. In 1914 Mitchell[8] reported on 72 children studied, of whom 65, or 90 per cent, were proven to be infected with bovine tuberculosis. Mitchell did not classify the type of lesions present in these cases. In 1927 Munro[6] presented the percentage of children with bovine tuberculosis and showed an incidence of 26.75 per cent up to 15 years of age. In his group 47.6 per cent of the tuberculous cervical adenitis cases were of bovine origin as compared with 2 per cent as given for the same type of lesion in New York City. Griffith,[9] in 1928, reported his findings in 598 patients with bone and joint lesions. Bovine type was proven in 20 per cent. In children under five years of age 33 per cent were bovine; between five and ten years, 24 per cent. In patients over twenty-five years of age the lesions were all due to human type bacilli.

Although Koch maintained that bovine tuberculosis did not endanger humans, his belief is no longer accepted. Many investigators, however, do consider a bovine infection of less danger to life than a human infection. De Besche[10] found no difference in virulence in the two types of infection. Munro considers the bovine type less virulent than the human type of tubercle bacilli and he states that infection with bovine bacilli tends to stimulate fibrosis. Furthermore, he states that a superinfection with bovine bacilli leading to chronic ulcerative pulmonary tuberculosis is hardly possible unless the superinfecting dose is very large, because the allergy produced by the previous tuberculous infection can protect against superinfection with bovine bacilli but may break down before an invasion by the human type. There is no doubt, however, that tuberculosis of the bovine origin is dangerous to man chiefly during early life.[11] Cobbett[12] considers that the route of infection in bovine tuberculosis is through the intestinal tract and in proof of this makes the statement that in bone and joint lesions the bovine type of lesion is more common in the spine than in the hip, and less common in the knee; i.e., direct infection from the abdominal cavity. Park and Krumwiede[3] state that bovine infection is practically negligible in adults but accounts for from 6 to 10 per cent of fatal tuberculosis in young children. Of young children under five years of age dying of the disease, bovine infection was the causative factor in 11, an incidence of 12.5 per cent. In the Foundling Hospital in New York City 5 out of 9 deaths in children under 6 years of age were due to bovine infection; all of these 9 children had been fed upon cow's milk.

To Theobald Smith and Park and Krumwiede we are indebted for methods of differentiation between the human and the bovine strains. Theobald Smith[14] started in 1905 to work out a cultural method of differentiation and published his results in 1910. His method is referred to as "the acid reaction curve." His method was to grow the bacilli on the surface of glycerol bouillon, using 100 c.c. amounts in flasks of uniform size, and titrating the contents from time to time with phenolphthalein as indicator. Both types of bacilli produced an initial progression towards alkalinity, which ceased after some weeks and gradually gave way to an acidity. Typical bovine strains did not produce an acidity greater than the original acidity of the medium, whereas, with typical human strains the acidity became considerably greater than at the start.

SMITH'S ACID REACTION CURVE



In the bovine type the rise in alkalinity was slower than with human type strains, as shown in the above curve, and the fall in alkalinity much less abrupt. The bovine type curve remained above the neutral level for at least 60 days.

Park and Krumwiede[4] stated that cultural differences were not constant but that usually all cultures which grew luxuriantly on glycerin egg from the start were human, whereas those with a sparse growth or no growth at all were bovine. To aid in the differentiation these authors injected rabbits intravenously with 1/100 mgm. of pure cultures of tubercle bacilli. Bovine type bacilli always produced progressive lesions and death of the rabbit; the human type, in the above dosage, never produced generalized tuberculosis, the lesion being found only in lungs or kidney, or both of these organs. Even with 1 mgm. of human type bacilli, the rabbits lived indefinitely though there was some tendency to a generalization of the tuberculosis.

EXPERIMENTAL FINDINGS

The type of cases studied is shown in the following table:

Age of Patients	Source of Material		Associated Lesions			
			Gen.	Pul.	Glandul.	Perit.
Up to 15 yrs. of age	Pulmonary lesion (sputum or feces)	10	2			1
	Bone and joint lesions	9	2	2	1	
	Lympho-glandular lesions	2		1		
	Skin lesions	1	1			
	Total	22	5	3	1	1
Over 15 yrs. of age	Bone and joint lesions	3		2		
	Total (all ages)	25	5	5	1	1

Pure cultures of tubercle bacilli were obtained from the infected material (sputum, feces, pus, or excised tissue) by direct cultivation, or by homogeneization with sodium hydroxide or sulphuric acid, or by guinea pig inoculation. From an early transplant, 1/100 mgm. of moist bacilli, suspended in 1 c.c. of saline, was injected intravenously into one rabbit in order to determine the pathogenicity of the strain. The rabbits were killed four to six weeks after injection and their organs were examined for evidence of tuberculous lesions.

As soon as a sufficient amount of pure bacterial growth was obtained, the acid curve was determined according to the method of Long and Major.[15] Their method is as follows: Four test tubes 1 inch wide, each containing 10 c.c. glycerol-peptone broth, neutral in reaction (pH 7.0), plus 0.001 per cent phenolsulphonephthalein, are inoculated with plaques of tubercle bacilli; approximately 0.75 cm. in diameter, sealed with sealing wax and incubated at 37.5° C. Once a week the tubes are taken out and the color compared with standards of known reaction containing the same concentration of indicator. The Dernby and Avery Comparator is used with a tube of broth back of the standard when determining broth reactions, to compensate for the color of the medium.

RESULTS

Out of 25 strains, 13 showed poor growth on the initial media and the early transplants; but only two of these had an acid curve characteristic of the bovine type. Two well growing strains showed an acid curve characteristic of the bovine type, but they did not produce generalized lesions in the rabbit. None of the strains produced generalized tuberculous lesions in the rabbit under the stated experimental condition.

DISCUSSION

Park and Krumwiede,[4] essentially in agreement with other workers, point out three characteristics which help in the dif-

ferentiation of the human and bovine type: (1) type of growth, (2) acid production, (3) pathogenicity for rabbits. It is well-known that strains of intermediary characteristics occur (see Long). The crucial point of differentiation is usually believed to be the animal pathogenicity. On the other hand it has been mentioned frequently that bovine bacil i which have been cultivated on artificial media for a long time, decrease considerab'y in rabbit pathogenicity. It is possible that a similar loss may occur after a long sojourn in the human body. This possibility is suggested by observations on three out of five bovine strains. These three strains which have been cultured for years on artificial media, behaved like human bacilli in the rabbit; one of them had the same type of acid production as a human bacillus, while the other two behaved in this respect like bovine bacilli. The one "bovine" strain, which had all the characteristics of a human strain, was given to us by Dr. M. Soule from Dr. Novy's collection, so that the accuracy of the initial typing cannot be doubted.

Out of the 25 strains which were isolated and typed in this study, none showed, in the rabbit, the pathogenicity characteristic of the bovine type. Four had an acid curve characteristic for bovine bacilli. Two of these strains grew very poorly on artificial media at first. In other words, these two strains have two characteristics of the bovine type and one, but presumably the most important one, of the human type. Whether these four strains were originally true bovine bacilli, which have lost their specific pathogenicity on account of environmental influences, or whether they must be considered "atypical human" strains, must remain an open question. It is probably safe to assign these four (typical) strains to the human type. But no definite statement can be made on this question without testing their pathogenicity on cattle. For all practical purposes it may suffice to state that out of the 25 strains examined, none was found to be a typical bovine bacillus. Although the number of cases is small, it is evident that the frequency of bovine infection in the City of Detroit must be very small as compared with the findings in the British Isles, or those of pre-pasteurization days in New York City.

SUMMARY

Twenty-five strains of tubercle bacilli isolated from tuberculous lesions in 22 children and 3 adults, were typed, using the traditional criteria: type of growth, acid production, and pathogenicity for rabbits. Although all the strains were recovered from the type of lesions in which the incidence of bovine bacilli is usually high, none of these 25 strains was found to be a typical bovine bacillus.

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INCIDENCE OF HUMAN INTESTINAL PROTOZOA IN DUODENAL ASPIRATES

Moses Paulson and Justin Andrews, Baltimore, report on seventeen patients manifesting no clinical evidences of frank gastro-intestinal and hepatobiliary diseases but presenting virtually all forms of intestinal protozoa encountered in the temperate zone in discharged specimens of feces who were subjected to duodenal drainage for the purpose of ascertaining the incidence of protozoa in the duodenum and upper jejunum, and possibly in the bile ducts and gallbladder. The study reveals that only *Giardia lamblia* lives to the duodenum. *Giardia* was isolated on the first series of duodenal extractions in each of seven cases in which they were found in the discharged feces. In the remaining ten cases all other forms of intestinal protozoa were isolated repeatedly from discharged samples of feces, but in no instance were any of these organisms recovered from aspirates of two duodenal drainages in each of nine cases and from four in the tenth instance. The presence of *Giardia* in B bile does not establish its habitat as that of the gallbladder in human subjects free from intra-abdominal disease. The authors feel that *Giardia* present in duodenal aspirates, under these conditions, is recovered from the duodenum in bile from the gallbladder and that no other protozoal forms are to be found in the upper small intestine and gallbladder. This is confirmatory of the prevailing protozoological point of view. Recent contrary observations in removed diseased gallbladders need further confirmatory study and are not comparable and should not be confused with what is present under "normal conditions."—Journal A. M. A.

TUBERCULOSIS IN CHILDREN*

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Tuberculosis should be considered one of the serious diseases of children. In the U. S. Registration area in 1928, it caused the death of more boys and girls under fifteen years of age than either whooping cough, measles, or scarlet fever and was but slightly exceeded by diphtheria. It cripples and maims many others. Many children are infected, and mild disease develops with symptoms and signs so slight that the condition is unrecognized until perhaps years have passed. We find that more than half of the cases of pulmonary tuberculosis in adolescence have had a preceding childhood type of disease. The insidious prodromal stage has passed unnoticed and with it the most favorable time for treatment.

Tuberculosis stands second from the head of the column of deaths caused by communicable diseases up to fifteen years, and from that age to forty it leads all the rest. We are now in a better position to do something about it. We can recognize it in its incipient forms as it occurs in children. We know something of its habits and its habitat. We have given it a new name—childhood type of tuberculosis. This is to supersede the numerous aliases by which it has been known in the past.

The term, childhood type of tuberculosis, has been adopted by the National Tuberculosis Association and will hereafter be used to describe the diffuse or circumscribed lesions in the lung and associated tracheobronchial lymph nodes that result from a first infection with tubercle bacilli.

SEQUENCE OF EVENTS

The immediate response of the pulmonary tissue to a primary infection with the tubercle bacillus is a circumscribed or diffuse lesion which may be situated in any part of the lung.

The chronological order of the stages in the childhood type of tuberculosis is as follows: (1) The formation within the parenchyma, usually adjacent to the pleura, of one, or, less commonly, more than one, focus of tuberculous tissue, with a central caseation. (2) In unfavorable cases, particularly in infants, peripheral spread takes place about the single focus or multiple foci with consequent invasion of a large area of lung. In favorable cases, which are not rare in infancy and constitute the majority of lesions in older children, the caseated area remains small and the tuberculous tissue about it becomes reduced to a fibrous capsule. (3) A deposit of calcium usually occurs in the caseous nodule.

A similar sequence of events takes place almost simultaneously in the tracheobronchial lymph nodes that drain the diseased area. It not infrequently happens that the primary lesion in the lung is so small that it escapes notice, and the X-ray evidence, therefore, varies according to the phase of the disease at the time the X-ray examination is made. It may show any one of the following conditions:

1. A circumscribed or more diffuse infiltration varying in extent from a few centimeters in diameter to the involvement of nearly the whole of one lobe of the lung with or without demonstrable uncalcified tracheobronchial nodes.
2. A small nodule in the lung with or without visible lymph node masses in the hilum.
3. Masses of calcified tracheobronchial nodes and no obvious disease in the lung.
4. Circumscribed masses of caseous nodes projecting outward from the hilum.

There are occasional cases in which the infiltrative process is not absorbed and excavation of the caseous center takes place. This form of lesion may then spread throughout the lung and result in generalized tuberculosis, or it may retrogress to healing.

DIFFERENCES BETWEEN CHILDHOOD AND ADULT TYPES

Adult pulmonary tuberculosis is the result of a reinfection from an exogenous or endogenous source. It generally begins in the apex, from which it has a tendency to spread. It is characteristic of this form that

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the tracheobronchial lymph nodes remain uninvolved.

The two types of pulmonary tuberculosis have the following characteristics.

Childhood Type

Usually occurs in children but rarely in adults.
Result of a primary infection.
May be localized in any part of the lung.
Associated tracheobronchial lymph nodes are always involved but may not be demonstrable.
Caseous lesions usually become calcified or encapsulated in fibrous tissue.
Infiltrated areas commonly resolve, leaving trivial or no scars except for the foci of caseation, which usually become calcified.
Prognosis good.

Adult Type

Usually occurs in adults but may be found in children.
Result of a reinfection.
Localization is apical, extending along the pleura. The first clinical manifestation, however, is often in the infraclavicular space.
Tracheobronchial lymph nodes not involved by this reinfection except sometimes in the terminal stage.
Caseous lesions usually followed by excavation or fibrosis, or both.
Infiltrated areas may resolve with the production of more or less fibrous tissue.
Prognosis in children is poor.

The diagnosis depends upon the consideration of these factors:

1. History.
2. Symptoms.
3. Physical signs.
4. Tuberculin test.
5. X-ray evidence.
6. Exclusion of other causes that might produce similar conditions.

HISTORY

Inquiry should be made as to whether the patient has been intimately associated with any person who has had pulmonary tuberculosis. The closer the contact, the more opportunity there is for infection. Prolonged exposure of a child to a patient with pulmonary tuberculosis usually results in infection, and excessive infection produces disease. Relationship to a person who has tuberculosis, without opportunity for contact, is not important in considering diagnosis.

Symptoms. — Many children have the childhood type of tuberculosis without manifesting any symptoms that can be ascribed to the disease, although they may have a progressive lesion.

Weight.—Either the childhood or adult type of tuberculosis may be found in overweight, average weight or underweight children. Therefore, many cases of tuberculosis will be missed if only underweight children are examined. Those in apparently excellent general condition may have an active focus of disease.

Undue Fatigue.—The tendency to tire easily is often noted and may be said to be the most common complaint in these children.

Cough.—Cough may occur during the stage of pulmonary infiltration. It is not, however, a constant symptom even in this phase of the disease; and, if present, is often attributed to a cold. It is not present after the perifocal inflammation has absorbed and the caseous or calcifying stage of the pulmonary nodule is reached, or when the disease is manifest only in the tracheobronchial glands.

Fever.—It should be kept in mind that a child's temperature is more unstable and is about one degree higher than an adult's. Therefore, a child's mouth temperature may be within normal limits if it occasionally goes to 100 degrees.

Pleurisy with Effusion.—A pleuritic effusion occurs rather frequently in children, and if no other cause is known it should be considered due to tuberculosis of the pleura. The symptoms accompanying this condition are often so slight that the presence of fluid is often unsuspected.

Occasionally an effusion will develop while the child is under treatment. The usual symptom is a sudden rise in temperature of two or three degrees which lasts for a few days and then subsides. There is no pain to attract attention to this condition. A physical examination and roentgenogram will establish the diagnosis. Symptoms are so slight that the condition can easily be overlooked if routine daily temperatures are not recorded. This is not done in the home, and therefore a child might have a pleuritic effusion and the febrile symptoms that accompany it might go unnoticed, or if noted would be ascribed to a disgestive disturbance or a slight cold.

PHYSICAL SIGNS

A diagnosis of some phases of the childhood type of tuberculosis cannot be made by physical examination. Auscultation and percussion are of service only in finding diffuse infiltrations of the lung or such enormously enlarged nodes as are found chiefly in infants. Slight infiltration areas, tuberculous nodules in the parenchyma, and most lesions of the tracheobronchial nodes cannot be demonstrated by physical examina-

tion. As a rule, only diffuse infiltrations or consolidations of the parenchyma give rise to physical signs.

TUBERCULIN TEST

A positive reaction to the tuberculin test always means infection with tubercle bacilli, but it does not necessarily indicate disease, or whether it is active or latent. The Mantoux, or intracutaneous test, is more accurate and with it a slightly larger number of reactors will be obtained than is possible with the Pirquet or cutaneous technic.

X-RAY EXAMINATION INDISPENSABLE

An X-ray is indispensable in the examination of a child's chest. Without it a positive diagnosis of the childhood type of tuberculosis cannot be made. Furthermore, a physician, however good a clinician he may be, is not justified in excluding tuberculosis without checking his physical examination of the chest with the evidence that only an X-ray film can give. There are two groups of lesions peculiar to the childhood type of tuberculosis that should be looked for in a roentgenogram—the parenchymal and the tracheobronchial.

The parenchymal lesions may be found in any part of the lung. They may be nodular or diffuse. If diffuse, the appearance is that of tuberculous pneumonia. As resorption takes place only one or more small nodules, or a few strands, remain. This evidence in time may also disappear.

The tracheobronchial node involvement may be seen as masses along the trachea, the main bronchi or their larger subdivisions. The density of the shadow cast by these diseased nodes depends chiefly upon the degree of calcification that has occurred. During the caseous stage, before any deposit of calcium has taken place, their density is so near that of the structures, vessels and bronchi with their delicate areolar sheath that together fill the hilum space, that the nodes cannot be differentiated. In relatively rare instances the nodes are so large that they protrude beyond the normal hilum area into the lung parenchyma. Then the outline of the diseased mass can be seen, as it has a greater density than the lung tissue with which it is in contact. Perceptible lesions of the nodes, or areolar connective tissue of the hilum other than tuberculous nodes, are rare. Artifacts due to movement cause practically all the diffuse ill-defined broadening and blurring of the hilum that is often seen. In a study of the film for evidence of the childhood type of tuberculosis both the parenchymal and tracheobronchial phases must be looked for. One or the other, or a combination of both, may be present.

DIFFERENTIAL DIAGNOSIS

The diseases that sometimes simulate the childhood type of tuberculosis are bronchopneumonia, bronchiectasis, pulmonary abscess, Hodgkin's disease, enlarged thymus, neoplasms and mediastinal abscess.

The parenchymal lesions of the childhood type of tuberculosis are chiefly to be differentiated from acute and chronic non-tuberculous infiltrations of the lung. Acute bronchopneumonia usually causes a sudden, severe illness, and the density in the lung clears rapidly. Chronic non-tuberculous infiltrations, including bronchiectasis, date from an attack of bronchopneumonia, often the bronchopenumonia of measles, whooping cough, or scarlet fever. In many of these cases, the vessels of the hilum are prominent and enlarged and can be traced into the parenchymal lesion which appears as strands and spots close to the diaphragm. The history records repeated severe illnesses, with rapid recovery except for persistent sputum. Lesions of the accessory nasal sinuses or the tonsils may be associated with these chronic non-tuberculous infiltrations.

Rounded, uncalcified masses projecting from the hilum or mediastinum into the parenchyma rarely have any other cause than tuberculosis. Hodgkin's disease will occasionally come into question. Apparent broadening of the mediastinum due to exposure during expiration and such broadening as normally occurs in children with short, deep chests should rarely be confused with tuberculous lesions of the nodes, since the former presents a smooth and uniform breadth, while the latter are irregularly rounded and usually associated with rounded masses projecting from the hilum. The thymus shadow is likewise not rounded and not associated with rounded masses projecting from the hilum.

Pulmonary abscess occasionally produces signs and symptoms that may be confused with pulmonary tuberculosis. In abscess there is usually a history of a recent tonsillectomy, some other operation on the upper respiratory tract, or pneumonia, a short time before cough and pulmonary symptoms appear. The presence of a for-

eign body in the bronchus as a possible cause of the condition must also be considered.

TREATMENT

Most important of all is to see that the children with the childhood type of tuberculosis be separated from further contact with an open case of tuberculosis. That precaution alone may be sufficient for the children who show somewhat calcified or fibrous parenchymal nodes and slight enlargement of the tracheobronchial nodes, providing they can have the essentials of good treatment, which are rest, fresh air, suitable food and sunlight.

The removal of physical defects that retard growth should be attended to without delay. It should be noted, however, that children with diffuse tuberculous pulmonary infiltrations should not be subjected to a tonsillectomy, as surgery in such cases often activates the disease.

These children, except those with pulmonary infiltrations, need not be excluded from school, as they have no open lesions and therefore cannot infect other children with whom they associate. Open air rooms, summer camps and preventoria serve an excellent purpose in giving these children living conditions that will aid them in healing their tuberculous lesions.

PROGNOSIS

This depends largely upon the child's reaction to the tuberculous infection and also to the frequency and dosage of bacilli. If further infection is stopped, most children will become adjusted to their disease unless extensive infiltration of the lung is present. Children sometimes succumb to an excessive infection, and death in these cases is due to a tuberculous pneumonia which becomes generalized. There is also the possibility of the bacilli being disseminated by the blood stream from a small lesion and causing miliary tuberculosis, meningitis or bone lesions. The majority, however, are able to withstand the infection, and the diseased nodules in the lungs and nodes become calcified and well walled off by fibrous tissue. Notwithstanding how well healed these lesions appear to be, they are a source of danger during the period of adolescence. Many girls and some boys break down at that time with pulmonary tuberculosis. From one-third to one-half of the cases of tuberculosis of the adult type found in adolescents have had a preceding childhood type of disease that is evident from the calcified lesions seen in the roentgenogram. Therefore, boys and girls below the age of twenty who are known to have the childhood type of tuberculosis should be advised to avoid strenuous exercise and competitive games unless their tuberculin reaction is negative and contact is known to have ceased in early childhood. Without this precaution there is great danger in these cases that excessive strain may reactivate the dormant focus or cause dissemination of bacilli through the blood stream with disastrous results.

SUMMARY

The childhood and adult form of pulmonary tuberculosis are two very distinct types of disease. In the childhood type the lesion develops in nonsensitized tissue, and the disease is spread through the lymph channels to the nodes draining the diseased area.

In the adult type the lesion develops in sensitized tissue, which tends to fix the bacilli in the infected area. When the spread takes place it is by continuity, by aspiration of infected material to other parts of the lungs or by the blood stream. This blood stream seeding may result in a localized lesion in bone and joint or in any organ of the body or in wide-spread miliary or nodular disseminated tuberculosis.

Not only is the diagnosis of tuberculosis in children very important, but the type of disease must be carefully determined. The decision as to its infectious nature, exclusion from school, necessity for active treatment, sanatorium care or home supervision and prognosis depend upon it.

Tuberculous lesions in a child are a source of danger throughout adolescence and early adult life, although they may appear to be retrogressing or calcifying. The amount of protection afforded depends upon the strength and integrity of the fibrous tissue enclosing the areas of disease, and we have no way of measuring it. Healing is a slow process that takes years to perfect. This we must remember and do all that we can to find and safeguard the tuberculous children during the years of their youth.

DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS IN CHILDHOOD*

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Recently I have had the opportunity of being with Dr. Armand-Delille at the Herold Hospital, Paris. At this hospital a large number of children are examined because they are tuberculosis suspects. A study of these cases has shown that the early lesions of pulmonary tuberculosis in infancy and childhood are localized, and may be classified as follows: First, there is the small sub-cortical tuberculous nodule, usually found in the right lower lobe and associated with enlarged hilum glands on the affected side. It is what Kuss called the "chancre of inoculation," and what the Germans call the "primär complex." There is a great tendency for this lesion to heal spontaneously. The second group of lesions consists of those in which only one lobe of the lungs is involved. This is the form which is progressive if not treated. Lobar involvement may take the form of (1) massive caseous pneumonia of one lobe; (2) bronchopneumonic type of infiltration of one lobe; (3) one finds pathologically a caseous nodule with a condensation of the lung parenchyma about it, but involving only one lobe. It is what Grancher called "spleno-pneumonia," due to the resemblance the lung parenchyma bore to normal splenic tissue. Rarely one sees a lesion which is "regressive" in nature. A whole lung may show this condensation of its parenchyma. It corresponds to the epituberculosis, described by Eliasburg, and what has also been described under the term of "a form of tuberculosis which is spontaneously curable."

The symptoms that a child may show that place him in the tuberculosis suspect group are: loss of weight, or failure to gain weight in an infant, anorexia, anemia, chronic cough, undue fatigability, a prolonged obscure fever. Many children show practically no symptoms in the early stages of progressive tuberculosis. Physical signs may be entirely absent. Occasionally there are transient râles, or some impairment of the percussion note. Rarely, a tuberculous pneumonia involving one lobe may give all the classical signs of consolidation. On the whole the physical examination is not dependable as an aid in the diagnosis of early lesions in childhood tuberculosis.

The diagnosis of childhood tuberculosis rests on four points. First, a history of exposure to tuberculosis. Tuberculosis in childhood is essentially a familial or human contact disease. The infant, in his intimate contact with his mother and father or other members of the family who may have tuberculosis, receives frequent and massive exposure to the tubercle bacillus. Often one finds an old grandparent with a chronic cough who is the cause of exposure. In a series of cases reported from the Herold Hospital there was a positive family history of tuberculosis in 100 per cent. Most clinics report figures from only 15 to 50 per cent. The high figures at the Paris Hospital may be attributed to the excellent social service personnel which investigates all families very thoroughly.

A second diagnostic point is the tuberculin reaction. A negative reaction is fairly good evidence against tuberculosis, provided one takes into account a negative reaction due to the preallergic stage of tuberculosis, overwhelming tuberculous infection, and conditions in which tuberculo-allergy is depressed, such as influenza, measles and pertussis. A positive reaction in France, in children under two years of age, is fast losing its importance, because such a large number of this age group has been vaccinated with the B.C.G.

The X-ray is by far the most important diagnostic agent in the early diagnosis of tuberculosis in infancy. Upon it often lies the entire burden of proof of tuberculosis. The lesions found in the X-ray correspond closely to the pathologic classification already mentioned. The primary nodule appears as a small dark spot, often subcortical and in the right lower lobe, and associated with mediastinal shadows due to enlarged tracheo-bronchial glands. The greatest

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number of films show shadows which have a lobar aspect. They are usually triangular in shape, with the base of the triangle in the axillary region, and the summit at the hilum. The shadow is often mottled due to bronchopneumonic type of infiltration, or the shadow may be of even density throughout. In epituberculosis there is a dense shadow of a whole lung. If it is regressive in nature, it clears gradually at the periphery, leaving finally a small residual spot, the primary focus.

It is usually impossible to collect sputum from infants and children. By the simple procedure of washing out the stomach for the sputum swallowed, one may find the tubercle bacilli. The technic in brief used at the Herold Hospital is as follows: The stomach is lavaged before breakfast with weak soda bicarbonate solution. If gross tuberculous material is found it is examined at once. If not, the washings are homogeneized. The fluid is centrifuged; to the sediment 30 c.c. of water and 10 drops of normal sodium hydroxide are added; this is heated ten minutes. If the specific gravity is above 1.007, alcohol is added. Then it is centrifuged for 45 minutes at high speed and the sediment is stained by the Zeihl-Neelsen method. By this method tubercle bacilli were detected in over 30 per cent of the cases in early stages of the disease. It is often necessary to repeat the process several times. In a few cases tubercle bacilli were found only after a pneumothorax was performed. One may also culture this material and inject guinea pigs, and by this means tubercle bacilli will be found in even a larger per cent of the cases.

Enlarged tracheo-bronchial glands are an essential part of the picture of childhood tuberculosis. I am considering its diagnosis separately for convenience. It occurs with every parenchymal lesion or may occur alone. Symptoms are of little aid in making a positive diagnosis. Marfan, the dean of French pediatricians, describes two functional symptoms which when present in children under two years of age are indicative often of greatly enlarged hilus glands. There is a so-called "bitonal cough," which is a brassy, two-toned cough, and which is difficult to describe; and there is a respiratory stridor. Neither sign is constant. Physical findings are of little help in diagnosis, as a comparison with X-ray, and autopsy findings have shown them to be inconstant and unreliable. It has been nicely summarized by a committee appointed by the National Tuberculosis Association, when they say: "D'Espine's sign, as indicative of enlarged tracheo-bronchial glands, is to say the least of doubtful value. Eustace Smith's sign is so generally present in normal children that it is of little or no practical diagnostic worth. Determination of interscapular dulness requires such a nicety of technic that even masters of percussion disagree as to the absence or presence of significant findings in this region of the chest." The only way, then, to make a positive diagnosis is by the X-ray. The anterior-posterior view, however, does not always reveal the glands, and it is always necessary to obtain a lateral view. The lateral film permits a view of glands covered by the heart in anterior-posterior section, and particularly exposes the gland which lies just below the bifurcation of the trachea.

The treatment of juvenile tuberculosis has two aspects, prophylaxis and actual treatment of the disease. As tuberculosis in infancy is largely a contact disease, it can be prevented by removal of the patient from the source of contact, and in the case already affected to prevent further contact. Grancher, in France, early recognized this principle, and established the system which bears his name. In the Grancher system, thousands of French children are boarded out in country homes, away from family tuberculous contacts.

Separation of parent from child is a serious measure, but not until recently was there found any other way out of the difficulty. Dr. Calmette's vaccine, the B.C.G., is now used extensively in France to prevent tuberculosis. The B.C.G. or bacillus Calmette Guerin, was prepared from a virulent bovine tubercle bacillus which has become avirulent for man after 230 successive passages on potato bile medium. Given in the first ten days after birth to an infant of a tuberculous mother or living in a tuberculous household, it prevents tuberculosis. It is given orally in three doses. After the first ten days it must be given subcutaneously. Already over 130,000 children in Paris alone have been vaccinated from July, 1924, to January, 1929.

The actual treatment of early pulmonary tuberculosis in children is collapse of the affected lung by artificial pneumothorax. Conservative treatment of early tuberculous

lesions has been abandoned at the Herold Hospital in Paris. Observations on a large number of patients treated by the sanatorium method, before the pneumothorax was introduced in childhood tuberculosis, showed that tuberculosis was a progressive and finally fatal disease in a large per cent of the cases. One could observe lesions, primarily localized to a part of one lobe, extend to the whole lobe, pass to other lobes and finally involve both lungs diffusely, if miliary tuberculosis or tuberculous meningitis did not intervene in the meantime. These experiences have led to the logical conclusion that every case of localized unilateral pulmonary tuberculosis in children should receive immediate compression therapy by pneumothorax.

The opposite lung may show increased hilum shadows, or enlarged glands. These are not contraindications to pneumothorax of the involved side. One often sees small round spots in the apex of the opposite lung, which gradually fade away with collapse of the grossly affected lung.

In such cases, i. e., unilateral tuberculosis treated by unilateral pneumothorax, at the Herold Hospital, Dr. Armand-Delille reports a 9 per cent mortality in 300 cases. The best results are obtained by unilateral pneumothorax. However, bilateral pneumothorax is now practiced in cases of bilateral pulmonary tuberculosis. As these cases have a poor prognosis anyway, a procedure as harmless as pneumothorax is justified. With this procedure further progressive evolution of the lesions is stopped and often a cure can be obtained. Only cases with localized lesions in each lung should have a bilateral collapse. Obviously, bilateral tuberculous bronchopneumonia and miliary tuberculosis are contraindications to bilateral pneumothorax. The technic of artificial pneumothorax is a comparatively simple one. It differs somewhat on the continent from the methods in vogue in the United States, but the principle is the same, that is, collapse of a lung by introduction of gas into the pleural cavity, and to keep the lung collapsed by periodic refills. Pneumothorax is an entirely innocuous procedure. Occasionally certain complications occur. Localized and generalized subcutaneous emphysema is seen. It is harmless and disappears spontaneously. Sudden accidents such as syncope and convulsions described in adults have not been observed in infancy. A common complication is a pleural effusion. It occurs in 25 per cent of the cases. It is sterile and disappears if left alone.

After artificial pneumothorax, one observes in the majority of cases a complete transformation of the patient. The tubercle bacilli disappear from the sputum. The temperature curve drops to normal. There is a gain of weight. Puberty is established normally. After the first few weeks, when the temperature is down to normal, the patient is allowed to be up and about. Usually these patients receive refills twice a month, and suffer absolutely no inconvenience from them. Even cases with both lungs collapsed walk into the treatment room and walk out after the collapse. After three years of collapse, if there are no symptoms, the lungs are allowed to expand gradually, a careful watch being maintained of the temperature, pulse, weight and cough.

Heliotherapy is a valuable agent in the treatment of tuberculosis. Using the technic of Rollier, one exposes the less sensitive parts of the skin, first the feet and legs, then abdomen, and gradually works up until the entire body is exposed daily for several hours. No harmful effects are obtained with exposure of the chest.

In a few cases, when the temperature fails to drop after a collapse of the lung, injections of tuberculous antigens have been employed with apparent success.

The particular antigen used at the Herold Hospital was called the "antigene methylique" and was prepared by Boquet and Negre of the Pasteur Institute. Needless to say, appropriate diet, cod liver oil, and medication as the case may require make up part of the accessory treatment. What are the results of pneumothorax? Dr. Armand-Delille reports a 15 per cent mortality in 500 cases of all kinds, unilateral and bilateral. The usual mortality in cases treated by sanatorium care is over 70 per cent. In summarizing, therefore: The early diagnosis of pulmonary tuberculosis in children depends on four criteria, a history of contact with tuberculosis, a positive tuberculin test, the X-ray, and tubercle bacilli found in the lavaged stomach contents. In a certain per cent of the cases a family history of tuberculosis may be lacking, and in only 30 per cent of the cases are tubercle bacilli found. Consequently the diagnosis often rests solely on a tuberculin test and X-ray findings.

The treatment in early cases is immediate induction of artificial pneumothorax. Only with this means can one prevent progressive evolution of early tuberculosis to bilateralization, miliary tuberculosis, or tuberculous meningitis.

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DISCUSSION ON PAPERS BY DR. HENRY D. CHADWICK AND DR. DANIEL BUDSON

Dr. B. A. Shepard: Mr. Chairman, I want to express my appreciation of these two excellent papers we have just heard. It is surely a healthy sign when the medical profession take up the work of such investigation and study of tuberculosis in childhood. It is surely an advance in gaining control of the disease. Most of us recall how difficult it has been to interest the professional men in this, but now the medical profession is taking up the dutics and it gives us hopes for greater strides in the work.

I was surprised at the statement made by Dr. Budson that the primary nodule of infection usually occurred in the right lower lobe. I do not believe that is quite according to Ghon's figures, although they do appear there in a larger percentage of cases than we used to consider; still it only averages a little higher than in other portions of the lung. Usually, as the Doctor says, it is subpleural, but the nodule of Ghon may be found anywhere throughout the lung, as I understand it. Perhaps we overestimate the size of the little nodule that it may even require microscopical study to find.

The diagnosis of tuberculosis in childhood has caused a great amount of discussion among those working along that line as to a comparative value of methods, and I recall some very warm discussions. One man says X-ray is the whole thing, the other makes it secondary to physical findings, while another lays still greater stress on the tuberculin test. Personally I believe that if we get a positive tuberculin reaction in a sick child, it is our duty to disprove the presence of active tuberculosis, rather than prove it. If a child shows a positive tuberculin reaction and we cannot explain the symptoms on other grounds, we should not allow him to get away with a negative diagnosis. The X-ray is very important, but the absence of positive findings with it in the presence of symptoms and a positive tuberculin test, does not justify a negative diagnosis; we are going to miss some very unhappy tuberculous cases if we do allow such diagnosis.

As to symptoms, I do not believe we need to figure underweight, as was stated. It has been my experience, and I believe it has been that of Dr. Chadwick and Dr. Myers and others, that a large percentage of these tuberculous cases are overweight. It seems to me that one of the big factors is fatigue—fatigue unexplainable from any other cause—fever and irritability. It has not been mentioned, but it seems to me that an important symptom is that we often find these children irritable and hard to handle. As to physical signs I believe that Dr. Chadwick says we cannot depend on them, and I agree with him.

Going back to the X-ray there is one thing we need to keep in mind and that is the peritoneal glands. Dunham and his coworkers have shown about five per cent of his children to have definitely calcified peritoneal glands and this with the cervical and other glands should be kept in mind, although we do not always find a definite gland shadow.

I would like to ask Dr. Budson or Dr. Chadwick whether there is allergy created by the B.C.G. vaccination. I have seen nothing on that and wonder if they have any information.

I want to emphasize the point brought out by Dr. Chadwick in regard to anesthetic procedures in tuberculous children, especially where we have the parenchyma of the lung involved. We find the general man and the surgeon ignoring it and so causing breakdowns after an anesthetic, even after immunization is well established.

I again wish to express my appreciation of these excellent papers.

Dr. Henry D. Chadwick: I am sorry I did not hear all of Dr. Budson's paper.

I would like to comment on the location of the focus of primary pulmonary tuberculosis. Some time ago my associate and myself looked over three thousand chest films and plotted on a single X-ray film the location of the primary foci that we found. In that three thousand films there were three hundred and eight primary nodules. After they were plotted on a single film, it was difficult to tell whether one area showed more than another, they were so evenly distributed over both lungs.

Dr. Budson stated that in post-mortem examinations they found more in the right lower lobe. Of course, there are many that we cannot see in the X-ray that can be found by pathologists, but if we take into account the area of the lower lobe as contrasted with that of the upper lobe we should expect to find more in that location. It seems to me that if we compare area for area the lesions are no more apt to be found in one section of the lung than in another.

Some years ago I thought that I could map out tracheobronchial nodes by percussion. I was quite confident of it until I checked up my physical examinations with an X-ray. Now I know that I cannot map out tracheobronchial nodes by physical examination except in rare instances of massive disease. When there is definite impaired resonance in the interscapular space, I think it is due to muscular spasm caused by the diseased nodes, and not to the mass itself.

One can find the pulmonary pneumonic lesions if

they are quite large, but the small ones give no abnormal physical signs.

I cannot add anything to what Dr. Budson has said in regard to allergy.

Dr. Brachman, of Detroit, about two years ago used some of the Langer vaccine but found it very difficult to get the right types of cases on which to try it. Out of eighty-nine infants that he selected as having a tuberculous parent and uninfected as demonstrated by tuberculin tests, he was able to get but five whose parents would permit vaccine to be used and would consent to the necessary isolation after it had been administered.

Its use is limited to very young children who are subject to exposure to tuberculosis but are as yet uninfected. Following the use of the vaccine the child must be separated from all possible sources of infection with the tubercle bacillus until immunity has been acquired. This takes three or four months.

Dr. Isaac A. Abt (Northwestern University, Chicago, Ill.): It is unfortunate for me that I did not hear all of Dr. Budson's valuable paper. But I have a word to say about the family history. I think Dr. Budson and all of you will agree with me that the important point so far as the life and the health of the infant is concerned, depends upon the existence of an active or open tuberculosis in some member of the family, though of course the same condition applies to a relative or servant or to any individual who is suffering from active disease and comes into intimate contact with the baby. It is generally agreed that altogether too often in early life the infection comes from human contact.

With reference to obtaining sputum, I personally have little success in obtaining this material which is so valuable for diagnosis. Of course, it may be obtained sometimes by the passage of a catheter into the esophagus and securing some bronchial secretion upon the withdrawal of the tube. It has also been recommended to introduce a gauze swab wrapped about the end of the finger well down into the pharynx and when coughing is provoked to wipe out the secretions coming from the bronchi. At any rate, children under 6 or 7 rarely expectorate voluntarily.

I think Dr. Budson will corroborate me when I say that one should distinguish between tuberculosis infection and tuberculosis disease. Many infants are infected without the development of active tuberculosis. We have only to think of the metropolitan statistics where young children give a positive Pirquet reaction, 70 to 90 times out of every hundred children examined.

Perhaps the majority of human beings are infected during young life. If this infection remains confined to the bronchial glands a spontaneous cure is likely to take place, which probably happens in the vast majority of cases.

It is probable that the bronchogenic route of infection is the most frequent in young life. Ghon and Albrecht have shown that a primary lesion occurs in the parenchyma of the lung, following which the adjacent glands become infected. This is probably the most frequent form of tuberculosis in childhood. Certainly in such cases where the disease is limited to the bronchial or mediastinal glands, there is no indication for pneumothorax operations. It seems to me there can be no debate about the condition which would indicate the production of an artificial pneumothorax. If the pulmonary disease is progressive and destructive, associated with the usual subjective findings observed in such cases, the production of artificial pneumothorax may be considered.

I have been asked to say a word about B.C.G., the recently obtained French product which was discovered by Professor Calmette, and advocated for use as an immunizing agent against tuberculosis. It is difficult to express any final opinion at the present time on the merits of this treatment. People who are engaged in investigating this immunizing agent are not in complete agreement. There are those who, like Professor Calmette, are its most ardent advocates. There are others in Europe and America who are not only skeptical, but violently opposed to its use. Some work is being done at present by using the dead or autoclaved tubercle bacilli for purposes of immunization.

At any rate, B.C.G. is still in the experimental stage and we must not use it therapeutically until we are certain that it can do no harm.

Dr. Daniel Budson (closing the discussion): In reference to the primary nodule being in the right lower lobe, I might say it of course can be found in any part of the lung, but it so happened in a large number of cases at the Herold Hospital that the greatest number were found in the right lower lobe.

Relative to allergy in B.C.G., Dr. Weill-Halle in Paris is doing the practical work of vaccination for Calmette. In his work published in the French journals he has shown that not all children vaccinated with the B.C.G. develop a positive tuberculin test. I think the percentage was 50 or 60. Also, the tuberculin reactions usually become negative at the end of two years. However, Dr. Calmette states he is not quite sure that immunity and allergy go together, and possibly these cases still have some immunity against tuberculosis after the tuberculin test becomes negative. This has been shown in his vaccination of cows, in which the tuberculin reaction became negative; yet they were immune to certain dosages of tubercle bacilli which would be fatal to cows that were not vaccinated.

I would like to emphasize just two points that I brought out at the beginning of my paper in answer to those who were not present then. One, the point of sputum. Children swallow their sputum, but by the simple procedure of washing out their stomachs one can find tubercle bacilli in the washings of about 30 per cent of the cases. As Dr. Chadwick has said, there may be cases of broncho-pneumonia difficult to differentiate from tuberculous broncho-pneumonia, unless one can fined tubercle bacilli in the sputum. I believe this procedure should be practiced more extensively.

Also in regard to treatment: Dr. Armand-Delille in Paris is very radical in his treatment. He believes in inducing artificial pneumothorax in every case of tuberculous consolidation, such as was shown on the screen. Though it is true that a certain percentage of these cases will clear up spontaneously, many will have relapses, develop miliary tuberculosis and tuberculous meningitis. So when he is presented with a case of childhood tuberculosis, he always favors a pneumothorax and thus feels that he is preventing the possible generalization of the process.

GALL STONE INTESTINAL OBSTRUCTION

CASE HISTORY

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FLINT, MICHIGAN

The following is the report of a case of rather unusual interest—an intestinal obstruction caused by the presence of a gall stone. The patient, Mrs. M., aged 48, entered Women's Hospital, Flint, Michigan, on June 4, 1930, at 9 a. m. She was acutely ill, complaining of severe generalized, cramp-like pains in her abdomen, nausea, and vomiting. The symptoms had been present for 21 hours. The vomitus was of a greenish yellow color, moderately profuse and occurring at approximately hourly intervals, preceded each time by nausea. The abdominal pain was generalized, with the point of greatest intensity in the right lower abdominal quadrant. The patient had never had any such previous attacks, although there was a definite history showing periods of constipation, at which time the patient noticed some abdominal distention accompanied by indigestion and gas. There was no history of typhoid fever or any other gastro-intestinal diseases; no symptoms referable to the genito-urinary system; and no signs or symptoms suggesting gall bladder or appendiceal pathology. The patient had passed the menopause at 45 with no untoward complaints. She had one child grown to manhood, by a normal labor. There were no signs or symptoms suggesting pelvic disease or pelvic visceral misplacement. She had always enjoyed comparatively good health with the regular habits one usually finds in a farmer's wife.

Examination: The patient is a female adult, approaching 50, moderately obese, complaining of abdominal pain. She vomited once during the examination, the vomitus being a greenish yellow color. The eyes, ears, nose, throat, and neck showed no evidence of pathology. The lungs were essentially negative to inspection, palpation, percussion, and auscultation. The heart rate was 120 with regular sounds of fair quality; no murmurs heard. The lower border was at the nipple line, the apex beat at the 5th intercostal space, with the right border not outlined. The respiratory rate was 26. Abdomen: Above the costal margin, indicating moderate distention; there was tympany throughout, with all the muscles in spasm. Tenderness more marked over the right lower quadrant. No masses seen or felt. Vaginal examination: There was some tenderness in the right adnexa and cul-de-sac. The uterus was movable and of normal size; cervix, non-pathological. The perineum, moderately relaxed, associated with an old second degree laceration. Rectal examination: Tenderness was elicited over the right ileo-cecal fossa. The remainder of the examination—negative. Catheterized urine specimen, negative. Blood count, 14,200 w. b. c. Differential not made.

Diagnosis: 1. Intestinal obstruction, type not determined. 2. Possibility of acute appendicitis.

Advice: Immediate operation.

Operation: A long right rectus incision was made extending 2 inches above the umbilicus, downward about 6 inches. There was considerable serous fluid encountered upon incision through the peritoneum. Pelvic exploratory revealed no pathology. The appendix was easily delivered, and appeared to be normal. Five inches from the ileo-cecal junction, there was felt a hard mass with irregular contour, about the size of a small egg, in the canal. It was causing complete obstruction at this point, and could not be moved distally or caudally. The proximal bowel was distended, and the distal, collapsed. A longitudinal incision was made over the mass, for removal. This incision was made near the mesenteric border and closed with a double layer of linen. The abdomen was closed without drainage. The gall bladder area was not explored.

The patient's convalescence was uninterrupted, and she was discharged on the 12th day with no complaints either subjective or objective. The wound had healed by primary union.

I am herewith submitting the report of Dr. Himmelburger, head of the pathological department of Women's Hospital, together with photographs of the mass: "Specimen consists of calculus of irregular shape, the maximum diameter of the specimen is 3 cm., and it has an irregular nodular surface. On cut section there is a central portion which is 18 mm. in diameter, that is composed of mixed cholesterin material, and an outer cortex-like structure which is 6 mm. in thickness. This outer portion is homogeneous, soft material containing calcium on chemical examination, and is apparently laid down upon the nucleus of mixed cholesterin stone. This is nearly pure cholesterin, similar in all respects to 'pure cholesterin biliary calculi.' Our conception of this specimen is that the central medullary portion of the cholesterin material is of biliary origin, while the balance of the calculus was laid upon this cholesterin nucleus in the intestinal tract. True enteroliths of intestinal origin rarely if ever contain cholesterin. They nearly all contain calcium, however, as is the case with practically all stones of gall bladder origin. The external and cortical portion of the specimen gave but an imperfect test for bile, and no cholesterin crystals could be found in this portion on microscopical examination. As before stated, it is altogether possible, and quite probable, that the cholesterin portion of the calculus was passed into the intestinal tract from the gall bladder, and for over a considerable length of time in this location gradually increased its size by the addition of the so-called cortical portion."

Discussion: A gall stone obstruction is a condition in which a large gall stone has made its way into the intestine, and has become impacted in some portion of the intestinal tract. This form of an acute intestinal obstruction is very uncommon, and this is the only case of its kind that I have ever had. One of my colleagues in Flint has seen only two cases in 35 years, and in both instances the patient died from peritonitis associated with ulceration. It accounted for less than 1% of 3,000 cases of acute obstruction collected from the statistics of seven London hospitals in 4 years, 1920 to 1924 inclusive. It is met with five times as frequently in women as in men. A gall stone of one inch or more in diameter is very liable to obstruct the bowel. The terminal portion of the ileum is the most frequent

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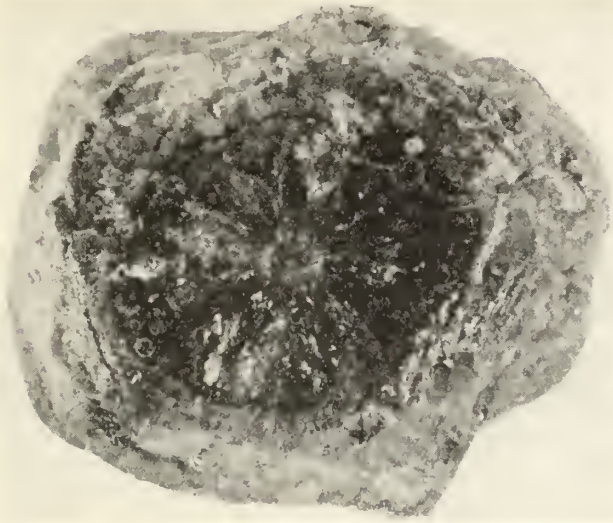

Fig. 1. Cross section: Gall stone removed from terminal ileum. Three times actual size. Author's case. Note darkened central portion—cholesterol deposits around a central nucleus.

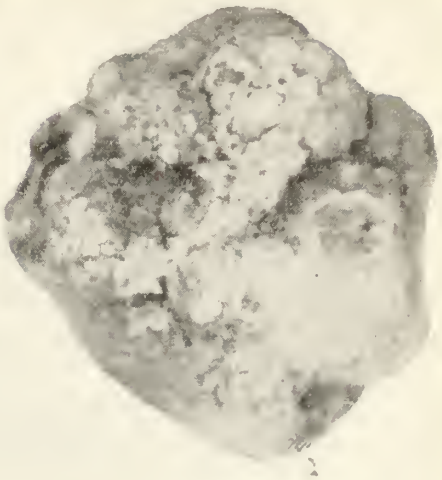

Fig. 2. External view: Gall stone removed from terminal ileum. Two times actual size. Author's case.

site. Probably in two-thirds of all the cases, the calculus is impacted in a segment of the bowel. The actual point of impaction depends very largely upon the size of the stone. The larger the gall stone, the higher the point of impaction. Its entry into the intestinal tract may be through an enormously dilated common bile duct, or it may ulcerate through the wall of the gall bladder, directly into the intestinal tract. During its habitat in the gut, there may be added deposits of hardened fecal material, which increases its size.

There may or may not be an old history of obscure epigastric or right hypochondriac pain, leading back many years, and described by the patient as indigestion. The calculus which produces the gall stone ileus is almost always a single stone, and too large to have engaged the biliary duct. The symptoms otherwise are those of an intestinal obstruction which are so well known, and which demand, as in all cases of intestinal obstruction, immediate surgical intervention.

Occasionally the condition is diagnosed as one of gall stone obstruction, if there is a clear-cut pain on pressure over the gall bladder area, associated with definite evidence of intestinal obstruction; but, due to the rarity of this condition, it would be a fortunate conclusion, and we are doing well if we observe the case as one of intestinal obstruction.

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MEDICAL IMPRESSIONS OF SOVIET RUSSIA

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The great English statesman, Gladstone, over fifty years ago enunciated the economic principle: "The health of the people is the wealth of the Nation." Lenin, the keen, prophetic and altruistic mind of Soviet Russia, realized this same fundamental truth and, through the "Five Year Plan," is being developed an intensive and extensive course of education, admirably designed to conserve the health and wealth of a far flung heterogeneous nation of over one hundred and sixty million people.

Realizing the nation's economic dependence upon adequate electrification, a commission was appointed by Lenin to survey the country's resources and determine where electrical energy could be most advantageously developed. It was soon discovered that this necessarily involved a parallel scheme for nationalized industrial and agricultural expansion. The "Five Year Plan," initiated in 1928, is the concrete application of the commission's report.

With an illiterate peasant population of eighty per cent, the numerically small but

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shrewdly intelligent Communistic or governing party forcibly realized the necessity for national education: cultural, professional (vocational), and hygienic. Without health and healthful surroundings the desired peak of industrial and agricultural endeavor could not possibly be attained and, consequently, realizing that "the health of the worker is the work of the workers themselves," each and every worker is assiduously supervised by the People's Commissariat or Department for the Protection of Health.

It must first of all be clarifyingly understood that Soviet Russia is a government uncompromisingly by and for the people or workers themselves. The worker or producer is more highly honored and privileged than a government employee, clerk, physician, or lawyer. There is very little private industry or initiative; practically everything and everyone is controlled by the State. Individualization is severely condemned but collectivization in industry and agriculture is being vigorously promoted. Naturally, therefore, all physicians and medical institutions are appanages of the government.

Soviet medicine believes strongly in specialization; the undergraduate is encouraged to select a specialty upon which to concentrate his studies and, if graduated from the general medical courses without evincing any specialized proclivity, the young physician is urged to continue his studies along some special phase. There are over twenty "State Scientific Institutes" located in Moscow, whose experimental researches and the training of specialists in various branches of medicine efficiently supplement the practical work of the nine administrative bureaus into which the Commissariat of Health is divided. The Microbiological, Biochemical, Tuberculosis, Venereal, Dental, and Balneological Institutes; the Institutes of Physical Therapy and Orthopedics, of Therapeutic Apparatus, for the control of Sera and Vaccines, for the Protection of Motherhood and Infancy, indicate the comprehensive scope of these scientific health laboratories.

Soviet Medicine came into existence July 21, 1918, being erected upon the fundamental principles of accessibility and of free medical service to all. It was at this epoch that the last outbreaks of devastating epidemics were extinguished, and Moscow, the seat of government, then promulgated this health truth: "It is by struggling against epidemics that we improve the healthfulness of work and of living in general." For the first time in Russia, dispensatories were instituted for the benefit of the entire working population at Moscow. This wholesale free medical service to workers was firmly established by all the institutions for medical relief and all the sanitary organizations remodeling their work upon the system employed by the dispensatories for fighting tuberculosis. Today every individual worker and his or her family is under constant medical supervision. The Obouch Institute for Professional Diseases is the prototype from which the Moscow government expects eventually to evolve scientific hygienic care for the entire nation. Under this plan the government does not wait for the patient to find the physician but sends the physician in search of the prospective patient among the different laboring groups brought into scientific observation by a central dispensatory. Commissions of possibly a dozen or more medical and sanitary experts are sent to factories, industrial plants, mines, farms, to investigate at the source the effects of the various trades (professions) upon the health and industrial activity of the laborer.

Investigating the deleterious effects of trade poisons and irritants; special and general weakness produced by violent work, by prolonged hours, excessive noise; nervous instability of teachers and students subjected to varying mental strains—these are but indications of the paternalistic care of a government which, realizing that nothing is ever to be attained without well-directed labor, denies nothing to increasingly substantiate its interests. The Institute is expanding its researches through the pervading principle that a dividing line between working and non-working or social hours cannot be professionally determined. It realizes that the hygienic influences surrounding the worker when at work cannot be scientifically divorced from similar hygienic ascendency exercised throughout the domestic and social life and environment. The laborer is thoroughly overhauled before being certified for work. This first physical examination is minutely recorded in what is termed "the sanitary diary"; this is filed at the dispensatory and is invariably referred to and amplified when the laborer subsequently reports at stated periods of time for re-examination, or to any department or physician to receive medical service. Thus a detailed account of

the worker's hygienic career is immediately available at all times.

Additionally to strictly medical assistance or care, the medical service superintends a multiplicity of prophylactic measures: improvement in living quarters; nourishment; conditions of work, transference from too arduous or unsuitable labor; utilization of sanatoriums, homes of rest, night sanatoriums, dietetic dining rooms; physical culture—all designed for preventing or minimizing sickness. A close alliance is thereby formed between the worker and the sanitary or hygienic expert. Prophylaxis is more concerned with causes than with symptoms; with the eradication of evils rather than their amelioration or cure. Prophylaxis is therefore the guiding influence of Soviet medicine and of its social legislation. Preventive care commences with the citizen before he is born. The pregnant mother, married or unmarried—if a laborer—is entitled to two months' care and rest at full pay before and after confinement; an additional food and clothing ration is provided for her during the first three months of nursing. Day nurseries, children's homes and schools are freely available for the care of infants and children during the hours their parents are actively employed in productive labor for the state. This is part of the collective system of industrialization whereby individualization is severely repressed in favor of one for all and none for one.

Although the government manufactures some alcoholic beverages it, nevertheless, constantly emphasizes, by means of posters, films, and educational talks, the misery, sickness, and depreciated economics incident to intemperance.

Marriage is merely a civil contract, but before being registered both parties are asked: "Are you aware of the condition of each other's health?" Wilful concealment of the truth is severely penalized. There are several "Abortion Hospitals" listed in Moscow, but all obstetrical institutions have a department for legalized operative interference—provided the expectant mother can show a good and sufficient reason: ill health; a student whose studies would be seriously retarded. Extra-conjugal pregnancy is no legal reason for abortion; three months prior to confinement the expectant mother is required to register the date of conception and give the name of the putative father. This latter has two months wherein to disprove the charge, if possible; otherwise, he is required to pay one-third of his daily wage towards the child's support. Adjoining the marriage registry is the "Birth Control" bureau where the expectant wife, as well as the wife de facto, may receive desired information as to contraception.

The palaces and mansions of the former nobility and rich merchants are all confiscated and converted into rest homes and clubs; night sanatoriums; convalescent and vacation homes; schools and nurseries, where the laborer and his family may enjoy those privileges formerly and restrictedly available for the upper or non-producing class. A laborer suffering from a cardiac or respiratory weakness, not severe enough to incapacitate from work, may temporarily live at a "night sanatorium" instead of occupying his own overcrowded and unhygienic room at home. He—or she—goes directly from the factory each day to the sanatorium; here he takes a bath, changes all his clothes, and is furnished with dinner, bed, and breakfast, and all required medical attention. Free "dietetic dining rooms" provide meals for diabetics and others needing special dietaries. Paralytics and others who, from the nature of their disability, would be nuisances or economic encumbrances, are cared for in state institutions, which, unlike strictly philanthropic enterprises, are better able to provide for most of the cases. At Tsarkoseloe, a portion of the palace of the former Tsar is converted into a sanatorium or rest home where rotating groups of children, ranging from three to eight years in age, and who are suffering from rickets or other constitutional debility, may receive six weeks of intensive hygienic care.

Soviet Russia divides the calendar month into six weeks, each week consisting of four days and one day of rest; consequently, every day in the week is a holiday for some one or other portion of the population. To provide wholesome recreation, as well as convenient and popular educational facilities, parks of "Rest and Culture" are available. Here the laborer and his family spend the entire day in a combined program designed to develop the physical, cultural, and moral needs of the individual as collectively appraised by a paternalistic government. Infants and young children are first parked and checked at the public nursery. On a wall of the receiving room are printed the "Consultation Hours for Mothers and Chil-

dren." Certain hours are assigned for sports and games, swimming, folk dancing, group singing, setting-up exercises, exposure in the roof solarium, rest periods, listening to lectures upon health and on the "Five Year Plan," and for visiting the numerous halls with their anatomical, physiological, and pathological exhibits. Physiological experiments and demonstrations are given by young and enthusiastic laboratory technicians which vie in attractive interest with the innumerable exhibits of peasant industry and of the nation's rapidly developing resources. There are also the "Revolutionary" and "Anti-Religious" museums which are always crowded with a deeply interested but never boisterous proletariat.

Vegetables, fruit, milk, and butter are extremely scarce; no white flour is available but a heavy, dark rye bread is abundantly procurable. Russia is intensively exporting her products in order to extensively import machinery and other needed supplies for further developing her wealth of national resources; consequently, all necessities of food and clothing are rigorously rationed. Despite these and other hardships, to which the Russian is voluntarily submitting in an endeavor to thus more speedily achieve national prosperity, the people show no apparent signs of starvation or vitamin deprivation. It is claimed that the peasants now eat 30 per cent more bountifully than formerly; that the adult death rate has decreased 30 per cent, and the children's rate 42 per cent.

"Smoking Not Allowed in the Offices of the Commissariat of Health"; "Do Not Shake Hands—It is a Waste of Time and May Spread Diseases," are two slogans displayed in a waiting room of the Board of Health. They could be profitably considered even by so hygienically a developed country as the United States.

Lenin said: "All morals are for the benefit of Mankind. All is moral which goes on for the interest of a new society." Here in Soviet Russia all the strength of the nation goes not in the strength of one man against another but for all mankind. "Learn what a people glory in and you may learn much of both the theory and practice of their morals."

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CUTIS MARMORATA OR LIVEDO RETICULARIS (MARBLE SKIN) WITH CASE REPORT

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This affection is not a mere dermatologic or cosmetic curiosity as heretofore regarded, but constitutes a source of physical and mental annoyance and discomfiture to the patient. It is, as the name implies, a mottling or speckling of the skin in most grotesque reticulated formations, bearing a violaceous or dusky marbling, almost bordering on the livid. Its configurations suggest serpentine segments of circles, semi-circles and triangles, occasionally relieved by annular or circinate figures.

We are indebted for its knowledge to the thorough and painstaking investigations of Crocker, Unna, Kaposi, Guille, Pringle, Williams, Goodman, Adamson, Renaut, Raynaud and many others.

The designations which have been accorded to the dermatosis are numerous and manifold; thus Unna and Pringle call it asphyxia reticularis multiplex; Kaposi terms it parakeratosis variegata. On the other hand, Broque names it erythrodermie pityriasique en plaque disseminee; the modern terminology readily denoted its descriptive character by naming it cutis marmorata or livedo reticularis. If I may be permitted to augment its description, I would include the word "carrara," as this dermatosis has a striking resemblance to carrara marble, which fact will be more fully depicted in giving the case history of my patient.

As a rule livedo reticularis occurs in young people, very rarely during middle age and is extremely rare during senescence. The cases under my observation were main-

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ly young girls entering puberty. This age predilection may possess a significant factor, which I will endeavor to dwell upon more fully in the etiology.

ETIOLOGY

The causative agencies are just as numerous as the names of the dermatosis. Labell has found it associated with hepatic scirrhosis and visceral diseases; varicosities, erysipelas, colds and arthritic conditions have been held equally responsible for its causation. Congenital myxedema, mongolian idiocy, scrofula and rickets have also been observed as probable etiologic factors. Guille regards it as a symptom of hypothyroidism, the later creating a circulatory disturbance in the parts thus affected. Tuberculosis and the tuberculous diathesis have been recognized by some as possible underlying causes; this has been borne out by Guille in "Livedous Children"; nearly all of them reacting towards the intradermal test. He also showed that there was a tuberculous family history in a great number of instances. Renaut thinks that it may be nothing but a lymphatic dystrophy. Pringle also thinks that it is a dyslymphatrophy and, like Unna, calls it asphyxia reticularis multiplex. Syphilis and alcoholism have been thought to be accountable for this malady; some authors believe that it may be due to the toxic action of the splanchnic plexus, causing localized stases. The theory which I wish to advance is one of incretory deficiency, for in the great majority of cases it takes place in girls at the onset of puberty. What relation the development of this stage of ovarian endocrine function bears to the dermatosis is only a matter of conjecture. In my case, it would seem that puberty was evidently accountable for the inauguration of the lesions. The estrus cycle must therefore be considered in connection with the subject under discussion.

PATHOLOGY

Renaut has conclusively demonstrated that in the dusky marbling or network known as livedo reticularis, there is a local anatomical departure from the normal, and that it is the result of the tuftlike arrangements of the blood vessels distributed throughout the parts. He suggests that behind it all there may be a vasomotor neurosis allied to the local asphyxia of Reynaud.

CASE REPORT

Miss Y. K., age seventeen, student, was referred to me for diagnosis and treatment. Her family history was negative; past history elicits diseases of childhood such as measles, whooping cough and "colds." Tonsillectomy two years ago; teeth apparently normal. No other serious affections since early childhood.

Present history: Duration of this dermatosis two years. The lesions are situated on the anterior and posterior aspects of the legs, gradually ascending to the thighs; a few of them are observable on the hips and occasional areas on the dorsal surfaces of the hands. The zones consist of mottled, speckled, dusky reticulations of a livid or bluish discoloration and arranged in grotesque, annular, circinate and zigzag formations resembling carrara marble. The lesions disappear under pressure. There is also noticeable a very fine downlike desquamation. The patient does not complain of any subjective symptoms. She has a basal metabolism of minus 15 and minus 25, taken at different periods. Blood pressure 100/60 per cent. Serological test negative. This case has been under observation since May 3, 1930; fully seven months have elapsed with no abatement of the lesions. However, patient thinks that they are slowly receding. Therapy consists of artificial Nauheim baths, with the hope that the carbon dioxide thus generated may stabilize the local circulatory stases. Internally, parathyroid, the anterior lobe of pituitary and corpus luteum were prescribed. The prognosis is problematical, as such cases very rarely disappear under treatment or spontaneously.

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MENACE OF MENTAL FACTORS IN BODILY DISEASE

Cornelius C. Wholey, Pittsburgh, cites three cases which represent somewhat extreme instances of the extent to which apparent surgical and medical syndromes may mask the real disease, and in which mental factors become converted into bodily expression. Less pronounced conditions of invalidism and organic disturbance are frequently brought about wholly, or are exaggerated, by mental or emotional maladjustments. Consideration of the mental situation in no way, either by inference or in fact, presupposes any slighting of the organic agencies of disease. Evaluation of mental factors necessitates study of the emotional life of the individual, knowledge of the family setting and, at times, a readjustment of environment and domestic relations. In "frozen" cases, "cracking up" the deadlock is well nigh impossible. Early detection of the morbid process, with firm and tactfully applied measures, will alone arrest the morbid infection. Though in certain instances it is conceded that a degree of organic change may be present, its relationship to the exaggerated symptoms could, at most, only be that of partly determining the sympathetic pathway to be followed by the neurosis.—*Journal A. M. A.*

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Commissioner
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Recent revision of the Rules and Regulations of the Michigan Department of Health for the control of the common communicable diseases resulted in several important changes. To insure a general understanding of the new requirements the revised regulations are printed in full:

RULES AND REGULATIONS FOR THE CONTROL OF THE COMMON COMMUNICABLE DISEASES

All cases or suspected cases of communicable disease shall be reported immediately to the local health officer. Local health officers are required to record these reports and to forward them to the Michigan Department of Health immediately. The following diseases shall be reported.

Actinomycosis
Ankylostomiasis (Hookworm)
Anthrax
Chickenpox
Cholera
Dengue
Diphtheria (Membranous Croup)
Dysentery-amebic
Dysentery-bacillary
Epidemic encephalitis (encephalitis lethargica)
Erysipelas
Favus
German Measles
Glanders
Gonorrhea
Influenza (In epidemics only)
Leprosy
Malaria
Measles
Meningococcus Meningitis (Cerebro-spinal Fever, epidemic)
Mumps
Ophthalmia neonatorum (Acute infectious conj.)
Paratyphoid
Plague
Pneumonia (Acute lobar)
Poliomyelitis (Infantile Paralysis)
Rabies
Rocky Mt. Spotted Fever
Scarlet Fever (Scarlatina, Scarlet Rash)
Septic Sore Throat
Smallpox
Syphilis
Tetanus
Trachoma
Tuberculosis (Pulmonary)
Tuberculosis (Other than Pul.)
Tularemia
Typhoid Fever
Typhus Fever
Undulant Fever (Malta Fever)
Vincent's Angina (Trench Mouth)
Whooping Cough
Yellow Fever

The following diseases shall be subject to quarantine and quarantine placards shall be placed on the premises:

Diphtheria
Meningitis
Poliomyelitis
Scarlet Fever
Smallpox

The following diseases shall be subject to isolation and warning placards shall be placed on the premises:

Chickenpox
German Measles
Measles
Mumps
Whooping Cough

School children, teachers, and other persons who have been living in quarantined premises shall not return to school nor have similar contact with groups of children for seven days after release from quarantine, whether they have been sick or well.

CHICKENPOX

Cases and suspected cases shall be *reported.*

A *warning placard* shall be placed on the home.

Patients shall be *isolated* until the skin is entirely clear. All patients over twelve years of age shall be inspected by the health officer to make sure that the disease is not smallpox.

Disinfection of all articles that may have come in contact with the patient shall be carried on during the entire period of isolation.

Adults and children living in the house with the patient, if they have had chickenpox as proved by the records of the local health department, may come and go as usual. Children living in the house with the patient, if they have not had chickenpox, shall be excluded from school and from contact with other children from the twelfth to the twenty-first day after first exposure.

DIPHTHERIA

(Including Membranous Croup)

Cases and suspected cases shall be *reported.*

A *placard* shall be placed conspicuously on the home.

Cases shall be *quarantined* and shall be released only when two bacteriological examinations of secretions from the patient's throat and nose, made not less than twenty-four hours apart, show no diphtheria bacilli present. The first of these cultures shall be taken not earlier than the ninth day of the disease. All cultures taken, either for diagnosis of the disease or for release from quarantine, shall be examined in a laboratory approved by the Michigan Department of Health.

Disinfection of all articles that may have come in contact with the patient or with discharges from the patient shall be carried on during the entire period of quarantine. The

sick-room shall be thoroughly cleaned when the patient is released from quarantine.

Exposed adults living in the house with the patient may be released by the health officer to live elsewhere if one bacteriological examination of secretions from the throat and nose is negative. Wage earners may be permitted to enter and leave quarantined premises if they have no contact with the patient, and if their work does not bring them in contact with children or with milk or food supplies. Children known to be immune may be released by the health officer to live elsewhere. Children not known to be immune shall receive passive immunity and have a throat culture taken or be quarantined for seven days. If the throat culture is negative they may be released to live elsewhere. If the throat culture is positive they shall remain in the quarantine and be released in the same manner as the case. For the purpose of these regulations, persons with a negative Schick test shall be considered immune.

When a case of diphtheria has attended any public, private or parochial school, all children and teachers in the schoolroom shall be considered as having been exposed to the disease, and shall have throat and nose cultures taken immediately, or be quarantined for seven days. They shall be examined carefully each day for any symptoms of diphtheria for seven days following exposure. A positive culture shall be sufficient reason for exclusion from school and isolation. Children so isolated may be released and return to school after one negative culture of the throat and nose.

DYSENTERY—BACILLARY

(Infectious Diarrhea)

Cases shall be *reported.*

Disinfection of the stools of the patient and of all articles that may have come in contact with them shall be carried on during the period of illness.

ERYSIPELAS

Cases shall be *reported.*

Patients shall be *isolated* until recovery is complete.

INFLUENZA

Cases shall be *reported* during an epidemic, upon order of the State Commissioner of Health.

Patients shall be *isolated* until recovery is complete.

MEASLES AND GERMAN MEASLES

Cases and suspected cases shall be *reported.*

A *warning placard* shall be placed on the home.

Patients shall be *isolated* until recovery is complete. The minimum period of isolation shall be seven days.

Disinfection of all articles which may have come in contact with discharges from the nose and throat of the patient shall be carried on during the entire period of isolation.

Exposed adults may come and go as usual. Exposed children who have had measles as proved by the records of the local health department, may do likewise. Exposed children who have not had the disease shall be excluded from school and kept from contact with other children for seven days after first exposure.

MENINGOCOCCUS MENINGITIS

(Cerebro-spinal Fever, epidemic)

Cases and suspected cases shall be *reported.*

A *placard* shall be placed conspicuously on the home.

Cases shall be *quarantined* for a minimum period of 14 days. The culture control method may be adopted where laboratory service approved by the Michigan Department of Health is available.

Disinfection of all discharges from the nose and throat of the patient and of all articles that may have come in contact with these discharges shall be carried on during the entire period of quarantine. The sick-room shall be thoroughly cleaned when the patient is released from quarantine.

Exposed persons living in the house with the patient shall be quarantined for the minimum period of 14 days, except for wage earners, who may enter and leave the premises provided that they have no contact with the patient and that their work does not bring them in contact with children or with milk or food supplies.

POLIOMYELITIS

(Infantile Paralysis)

Cases and suspected cases shall be *reported.*

A placard shall be placed conspicuously on the home.

Cases shall be *quarantined* for a minimum period of 21 days.

Disinfection of all discharges from the nose, throat, and bowels of the patient and of all articles that may have come in contact with these discharges shall be carried on during the entire period of quarantine. The sick-room shall be thoroughly cleaned when the patient is released from quarantine.

Exposed persons living in the house with the patient shall be quarantined for the minimum period of 21 days, except wage earners, who may enter and leave the premises provided that they have no contact with the patient and that their work does not bring them in contact with children or with milk or food supplies.

SCARLET FEVER
(Scarlatina, Scarlet Rash)

Cases and suspected cases shall be *reported.*

A *placard* shall be placed conspicuously on the home.

Cases shall be *quarantined* until recovery is complete and all abnormal discharges from the nose, ears and broken down glands have ceased. *The minimum period of quarantine shall be 21 days.*

Disinfection of all articles which may have come in contact with the patient or with discharges from the patient shall be carried on during the entire period of quarantine. The sick-room shall be thoroughly cleaned when the patient is released from quarantine.

Exposed adults living in the house with the patient may be released by the health officer to live elsewhere. Wage earners may come and go as usual provided that they have no contact with the patient and that their work does not bring them in contact with children or with milk or food supplies. Exposed children in the household of the patient shall be excluded from school for seven days from the time of last possible contact with the patient. They may then return to school if they have had none of the symptoms of the disease.

When a case of scarlet fever has attended any public, private or parochial school, all children and teachers in the schoolroom shall be considered as having been exposed to the disease. They shall be carefully examined each day for the following seven days for any symptoms of scarlet fever.

SEPTIC SORE THROAT

Cases shall be *reported.*

Patients shall be *isolated* until recovery is complete. They shall not engage in any occupation that is in any way connected with milk or food supplies or live on the premises where such supplies are for sale.

SMALLPOX

Cases and suspected cases shall be *reported.*

A *placard* shall be placed conspicuously on the home.

Cases shall be *quarantined* until desquamation has ceased.

Disinfection of all articles that may have come in contact with the patient shall be carried on during the entire period of quarantine. The sick-room shall be thoroughly cleaned when the patient is released from quarantine.

Exposed persons living in the house with the patient who either have had smallpox or have been successfully vaccinated within five years or show an immunity reaction may be released by the health officer to live elsewhere. Those who have not had smallpox or who have not been successfully vaccinated within five years or who do not show an immunity reaction shall be quarantined and vaccinated at once. If the vaccination is successful they may be released by the health officer to live elsewhere on the twelfth day after the vaccination. Should such persons refuse vaccination, they shall be isolated for 17 days from the date of last possible exposure. Persons who choose to reside within the quarantine, if they have not had smallpox or have not been successfully vaccinated within five years, or do not show an immunity reaction, shall be held in isolation for 17 days after the termination of quarantine.

Exposed persons not living with the patient, who have not had smallpox, or who have not been successfully vaccinated within five years, or who do not show an immunity reaction, shall be quarantined and vaccinated at once. If the vaccination is successful they may be released from quarantine on the twelfth day after vaccination. If they refuse vaccination they shall be quarantined for 17 days from the date of last exposure.

When a case of smallpox has attended any public, private or parochial school, all children and teachers in the schoolroom

shall be considered as having been exposed to the disease.

TYPHOID AND PARATYPHOID FEVER

Cases and suspected cases shall be *reported.*

No *placard* is required.

Cases shall be *isolated* until two specimens of stools and urine, taken one week apart, have been examined in a laboratory approved by the Michigan Department of Health and found free from typhoid or paratyphoid bacilli.

Disinfection of stools and urine and of all articles that may have come in contact with these discharges shall be carried on during the entire period of isolation.

Exposed persons living in the house with the patient shall not engage in any occupation connected with milk, dairy products or food supplies. The immunization of all such persons shall be urged by the health officer.

Persons who are typhoid or paratyphoid carriers shall not engage in any occupation that is in any way connected with milk or food supplies or live on the premises where such supplies are for sale. Carriers shall furnish for examination specimens of stools and urine upon request of the Michigan Department of Health. Any carrier planning to change his place of residence or his occupation shall notify the local health officer and the Michigan Department of Health before the change is made.

The Michigan Department of Health shall keep a record for interstate notification of any movement of carriers.

VINCENT'S ANGINA
(Trench Mouth)

Cases shall be *reported.*

WHOOPING COUGH

Cases and suspected cases shall be *reported.*

A *warning placard* shall be placed on the home.

Patients shall be *isolated* for three weeks after development of the characteristic cough.

Disinfection of the discharges from the nose and throat of the patient and of articles that may have come in contact with these discharges shall be carried on during the entire period of isolation.

Exposed children living in the house with the patient, if they have had whooping cough, as proved by the records of the local health department, may go to school as usual. If they have not had whooping cough, they shall be excluded from school and from contact with other children for the same length of time as the patient.

FAVUS, IMPETIGO, RING WORM, SCABIES, PINK EYE, PEDICULOSIS, AND ALL OPEN SORES

Cases shall be excluded from school.

SYPHILIS, GONORRHEA, CHANCROID

All cases of these diseases in an infectious state, together with all possible sources of infection, shall be reported immediately by all physicians and health officers direct to the Michigan Department of Health (Act 272, P. A. 1919). The following persons shall be deemed to be in an infectious state: (1) Syphilis: a, primary stage; b, secondary stage; c, tertiary stage, when open lesions exist. (2) Gonorrhea in all stages. (3) Chancroid in all stages.

Blanks for this purpose have been prepared by the Michigan Department of Health and will be furnished upon request.

All suspected cases of these diseases may be examined by a medical inspector of the Michigan Department of Health or other duly authorized representative. Local boards of health are hereby authorized to appoint a licensed physician to make such examination for the protection of the public health, within their jurisdiction.

Persons known or reasonably suspected of being a common prostitute or an inmate of a house of ill-fame, or any man consorting with them, shall be deemed a suspected case. Any person reasonably suspected by the local health officer of being infected with any of these diseases, who refuses to be examined by the licensed physician appointed for the purpose, shall be deemed to be infected and the local health officer is authorized to protect the public by the isolation or quarantine of such a person.

Placarding, Isolation or Quarantine will not be used in the administrative control of these diseases in any case where the public health can be protected without these measures. These methods will be used when necessary (1) to insure the public against infection, (2) to insure that the patient receives adequate treatment and (3) to insure compensation for such treatment (Act 22, P. A. 1919).

FAMOUS MEN IN MEDICAL HISTORY

OLIVER WENDELL HOLMES*

PHILIP Q. ROCHE, M.D.

Of Oliver Wendell Holmes' ancestors little is of interest save that they were persons of substance, and of modest success in life. His father, Rev. Abiel Holmes, was a man of some distinction in his profession. Of his mother, Sarah Wendell, much is revealed in the qualities of her son. With such forebearers we feel in his own words that, "he had a right to be grateful for a probable inheritance of good instincts, a good name, and a bringing up in a library where he bumped about among books from the time when he was hardly taller than one of his father's or grandfather's folios."

Oliver was born on August 29, 1804, in the *old gambrel-roofed house* at Boston.

His schooling began early, first at a dames' school from which no special traditions are preserved. From ten to fifteen he attended school at Cambridgeport and, ostensibly following the paternal precedent, was thereafter sent to the Phillips Andover Academy, a theological school of adamant orthodoxy, presided over by Mr. John Adams.

The sanctity of Andover failed to make Oliver a clergyman. It is difficult to fancy Holmes as a fabricator of exhortative homilies, and as a snatcher of heathen souls, yet he wrote: "I might have been a minister myself, for aught I know, if (a certain clergyman) had not looked and talked so like an undertaker." Oliver at an early age saw clearly that for himself sackcloth incurred the greatest hazards of becoming disagreeable to others and distasteful to himself; of becoming, as he said, "one of those *poitrinaires* with bandanna handkerchiefs around their meagre throats and funeral service in their forlorn physiognomies."

After Andover, Oliver came in the summer of 1825 to Harvard, becoming a member of the famous Class of '29. Of his career at Harvard there is little to chronicle save the reminiscences of undergraduate peccadilloes, class feeling, fellowship and the like. In a letter to a friend he describes himself: "I, then, Oliver Wendell Holmes, Junior in Harvard University, am a plumeless biped of the height of exactly five feet three inches when standing in a pair of substantial boots made by Mr. Russell of this town, having eyes which I call blue, and hair which I do not know what to call—in short, something such a looking kind of animal as I was at Andover, with the addition of some two or three inches to my stature. Secondly, with regard to my moral qualities, I am rather lazy than otherwise, and certainly do not study as hard as I ought to. I am not dissipated and I am not sedate, and when I last ascertained my college rank I stood in the humble situation of seventeenth scholar."

Graduation found him yet without decision as to his life calling. A tentative experiment with Blackstone and Chitty at the Dane Law School consumed the following year; nothing serious came of it, save his succumbing to "the seductions of verse writing," a symptom hardly gratifying to his preceptors. He tried his hand at scribbling verse which in later years he resolutely forbade publication, and was merciless in his condemnation of such confections as *The Spectre Pig,* and *The Mysterious Visitor.* One genuine lyric furor, however, made him famous. Stirred by the decision of the Navy Department to scrap the historic frigate, *Constitution,* he impetuously shaped the stanzas of *Old Ironsides,* and sent them to the Daily Advertiser, of Boston, whence they were widely disseminated. These ringing verses gave impetus to an almost hysterical, national indignation, gave the old frigate a reprieve, created a popular sentiment, and a large share of the population of the United States had heard of Oliver Wendell Holmes, just of age, a law student at Cambridge.

Belonging to the New England *Brahmin Caste* who enjoyed the usufructs of college training and who practiced the three learned professions, Holmes, having tasted of two,

*Delivered March 27, 1930, before the Victor Vaughan Society, University of Michigan, Ann Arbor, Michigan.

was faced with the alternative of the third. Thence to medicine.

Holmes attended two medical courses of lectures at Cambridge and then following the accepted tradition of the day took leave for the Old World for contact with the recognized masters who at this time made Paris the center of medical learning.

Foremost among his Parisian teachers was the famous Louis, of whom he said, "he was of serene and grave aspect, but with a pleasant smile and kindly voice for the students with whom he came into personal relations; he was the object of our reverence, I might say, idolatry," and he adds, "modest in the presence of Nature, fearless in the face of authority, and unwearying in the pursuit of truth."

Less attractive but perhaps more picturesque were others, among whom were Andral, Lisfrane, Baron Larrey, Broussais, Velpeau, Dupuytren and "the vivacious Ricord, whom I remember calling the Voltaire of pelvic literature—a skeptic as to the morality of the race in general, who would have submitted Diana to treatment with his mineral specifics, and ordered a course of blue pills for the vestal virgins."

In 1834 the courses of medical instruction were over, and Holmes, with a group of friends, started forth to travel. After the conventional visits to the Lowlands, the Rhineland, and Italy, and England, he returned to America, Dec., 1835, at the age of twenty-six, rich in experience and with two skeletons and some skulls.

Now to set up practice in earnest. He hung up a modest shingle, indicating to his neighbors that disease among them would hasten his success. In an announcement in the local Boston paper, Dr. Oliver Wendell Holmes would welcome all persons at any hour of the day or night, with the smallest favors, or *fevers*. This pun did not take well with the bilious New England temperament.

Even the beginnings of a successful career as a practitioner never developed. A fair practice, yes, but hardly more. In after life he admitted that he never made any strenuous effort to obtain business, reminding us of his dictum that "for a successful physician to have business he must want it." In a gay but naive way he consoled his failure by saying that after all, the thing that pleased him most about practising medicine was that he had to keep a horse and chaise. He gravely admonishes the medical tyro: "Do not dabble in the muddy sewers of politics, nor linger by the enchanted streams of literature, nor dig in far off fields for hidden waters of alien sciences. The great practitioners are generally those who concentrate all their powers on their business." Holmes, although competent as a medical man, indeed suffered by transgressing his own rules. A man who writes poetic ditties must not write prescriptions. To be a wit was bad enough; to be a poet, worse. Better be a rascal or hard drinker and have some bond of sympathy with your few patients.

In 1836, the first year of his practice, he committed the grievous sin of publishing a volume of his poetic efforts, including *Old Ironsides, The Last Leaf,* and the Phi Beta Kappa poem. Morse, his biographer, says that in the short poems, "the natural ear for melody, the happiness of expression, the just feeling for proportion, might be noted; but the impression left was that the writer regarded life as a sort of rosary of the gayest kind of jokes, the most absurd extravagances of wit." It was most flattering to be invited to deliver poems for almost every conceivable occasion. There is *A Modest Request,* complied with after the dinner at President Everett's Inauguration; *The Rhymed Lesson,* delivered before the Boston Mercantile Library Association; a *Medical Poem,* taken as a prescription by the Medical Society. There are poems written on fairs; poems on the birthdays of prominent citizens; poems on their going to Europe; poems to welcome them back, and always poems for the reunion of the Class of '29. These were poor advertisement. Holmes consoled himself by reflecting that the distinguished von Haller lost his election as physician to the hospital in his native city of Berne, presumably on the ground that he was a poet.

For the next three seasons Holmes was one of the physicians at the Massachusetts General Hospital.

Destined for the academic rather than the practical medical life, he was "mightily pleased" to receive the appointment of Professor of Anatomy at Dartmouth College. He held the place for three years, 1838 to 1840, during which time he busied himself with writings, chiefly among which was the Boylston Prize Essay, which took first honors.

The following summer he again took first place in the Boylston Prize competition. Of these essays one was on the *Intermittent Fever in New England,* which represented a most painstaking piece of industry in the collection of data concerning malaria in the region of that time.

They who reach the end of Osler's *Aequanimitas* will learn that for the scandalously busy medical student, the secret of acquiring a knowledge of books consists in cultivating the habit of reading from the best literature, a half hour, perhaps in bed, every night before retiring. They too, will find an appended list of books of Osler's recommendation, among which are Holmes' *Breakfast Table Series.* For those who may acquire this habit, may I recommend another of his works; namely, the *Medical Essays,* a treasure house of medical aphorisms, which, if compiled under a single cover, may well be the medical students' *vade mecum.*

In 1843 he published his essay, *The Contagiousness of Puerperal Fever.* It is this essay upon which rests his claim to having made a contribution to medical science. Prior to the time of Pasteur and Koch and our own knowledge of living matter as the casual agent of disease, the status of puerperal fever, for one, was a curious reflection of medieval superstition and of the medical casuistry of the Miasmatists, the Methodists, the Contagionists, the Epigenisists, of Biblical exegesis, and a host of others.

There had been some conjecture, but hardly a conviction as to the nature of the malady, in particular from the English obstetricians, whose opinions he copied and further elaborated into his doctrine which stands as the first definite proposition as to the general agency and *modus operandi* of puerperal fever. This contribution was in no wise original in the sense that the doctrine put forth arose from the inspiration to a single mind, nor in sense that it represented the labor of experimental proof. A few pertinent facts and suggestions were at hand; the correct answer hung in the air, so as to speak, and it remained for a logical mind to weigh and mould them into an articulate truth. And indeed, it remained for the contingency of a happy combination of logical mind and power of expression in an individual of strong personality. Such a combination was Oliver Wendell Holmes.

This paper was read before the Boston Society for Medical Improvement and, at the request of the Society, printed in the *New England Journal of Medicine and Surgery* for April, 1843. The circumstance of this choice of publication was most regrettable, as it ceased to publish within a year's time, and the few copies that were struck off were soon lost sight of. The profession at large was hardly aware of its existence.

Holmes states in his introductory notes that the discussion of this subject arose out of the circumstance of a reported case of a physician who had made an examination of the body of a patient who had died of puerperal fever and who himself died in less than a week, apparently in consequence of a wound received at the examination, having attended several women in confinement in the meantime, all of whom, it is alleged, were attacked with puerperal fever.

Holmes therefore resolved to investigate the matter for himself: "I therefore felt that it would be doing a good service to look into the best records I could find, and inquire of the most trustworthy practioioners I knew, to learn what experience had to teach in the matter, and arrived at the results contained in the following pages."

The gravamen of the essay, as stated in his own affirmation, is as follows: "The disease known as Puerperal Fever is so far contagious as to be frequently carried from patient to patient by physicians and nurses."

His recommendations were as follows: "A physician holding himself in readiness to attend cases of midwifery should never take any active part in *post mortem* examinations of puerperal fever cases. A physician present at such *post mortems* should use thorough ablution, change every article of dress, and allow twenty-four hours to elapse before attending a case of midwifery. Similar precautions should be taken after the autopsy or surgical treatment of cases of erysipelas if the doctor is obliged to unite in such duties with his obstetrical work, which is in the highest degree inexpedient."

Although misplaced in an ill-starred journal, the essay did not fail to arouse indignation. His conclusions were attacked by "the two leading professors in obstetrics in this country," both of Philadelphia, Hodge

(the elder), and Meigs. The latter in particular used language of such vindictiveness that the discussion may have been consumed in a personal quarrel.

Tradition, prestige and academic pretensions were heavily against Holmes, as they always have been and probably always will be against progressive spirits. If the part that these two gentlemen played did not lend dignity to the controversy, it at least lent importance to it, and gave impetus to renewed efforts on the part of Holmes and resulted in the reprinting of the essay without change of a single syllable. This appeared in 1855 under the title, *Puerperal Fever, a Private Pestilence,* together with an introduction addressed in particular to students. He said very magnificently but not without a touch of sentimentality: "I take no offense and attempt no retort. No man makes a quarrel with me over the counterpane that covers a mother with a newborn infant at her breast. There is no epithet in the vocabulary of slight or sarcasm that can reach my personal sensibilities in such a controversy." Further addressing the student, he pleads: "There are some among them who, from youth or want of training, are easily bewildered and confused in any conflict of opinions into which their studies lead them—they are liable to lose sight of the main question in collateral issues and be run away with by aggressive speculation—they naturally have faith in their instructors, turning to them for truth, and taking what they may choose to give them; babes in knowledge, not yet able to tell breast from the bottle, pumping away for the milk of truth at all that offers, were it nothing better than a professor's shrivelled forefinger."

At the time of his first publication in 1843, it is very unlikely that Holmes was aware of the work of Semmelweiss, nor in turn, was it likely that the Hungarian was aware of his before the latter's doctrine was published in 1847. However, the second publication of Holmes in 1855 did include in the bibliography references to Semmelweiss, quoted through English and French writers.

As in many instances of simultaneous and independent discoveries, there has been a controversy as to priority of Holmes or Semmelweiss. Those who have favored Holmes have been somewhat carried over by local prejudice and patriotism, and those who have favored Semmelweiss did so only in a belated fashion after the proverbial prophet converted all countries save his own. On the basis of actual time of publication there is no question that Holmes is entitled to priority since he antedated Semmelweiss by almost five years. However, on the basis of a more clear definition of the disease, of corroborative data and citations of reduced mortality, of experimental proof, and of more effective prophylactic and antiseptic recommendations, the distinction is then conferred on Semmelweiss. Yet we must not summarily dismiss Holmes: he is justly entitled to the distinction for the contribution itself, for the new truth, and for his wholesome influence on American medicine. Success in results is proof of the experimental pudding; while Holmes occupied the position of an armchair oracle and labored with rhetoric, Semmelweiss labored with experimental method which was indeed the more onerous but fruitful.

Holmes' only matrimonial venture proved eminently successful, and he accepted it as such. At the age of thirty-one he married a Miss Amelia Lee Jackson, daughter of Hon. Charles Jackson, an Associate Justice of the Supreme Court of the Commonwealth of Massachusetts. From this union came three children; one, a daughter, who died in 1889; one, a son, who is said to have inherited not only much of his father's wit, but also his asthma, from which he died in 1884; and the third, the eldest son, Oliver Wendell Holmes, Jr., who served with distinction as an officer in the Civil War, and who survives as a distinguished Associate Justice of the United States Supreme Court.

In 1847 Holmes received the appointment of Parkman Professor of Anatomy and Physiology in the Medical School of Harvard University, a position which he held for thirty-five years. This position embraced strictly anatomy and physiology, yet he occasionally gave instruction in psychology and microscopy, being the first in this country to teach the last mentioned subject. This multiplicity of function led him to remark that he occupied not a professor's chair, but a whole *settee.*

If the author of the *Editorial Comment* of the Boston Transcript of 1911 intimated that the accession of Holmes' successor, Dr. Dwight, in 1882, meant the "transition from a longish reign of incompacity tempered with epigrams," he were surely alone in his

sentiment. But let his students and colleagues tell of Holmes as a professor of anatomy; as a man who could make his subject fascinating, who seasoned it with a devastating wit; who spared neither pains nor expense for books, plates, and prints for teaching purposes, and who inspired a not inconsiderable number of worthy prosectors and demonstrators of human anatomy.

Dr. Dwight, his successor, vividly describes: "The amphitheater, the seats of which were at a high pitch, was entered by the students from above through two doors, one on each side, each of which was approached by a steep stairway between narrow walls. The doors were not usually opened until some minutes after the hour. The space at the top of these stairs was a scene of crowding, pushing, scuffling, and shouting indescribable, till at last a spring shot back both doors at once and from each a living avalanche poured down the steep alleys with an irresistible rush that made the looker-on hold his breath. How it happened that during many years no one was killed or even seriously injured, is incomprehensible. The excitement of the fray having subsided, order reigned until the entrance of the professor, which was the signal for tumultuous applause. He came in with grave countenance, shoulders back and head bent down. No one realized better than he that he had no easy task before him. He had to teach a branch repulsive to some, difficult for all, and he had to teach it to a jaded class which was unfit to be taught anything. The wooden seats were hard, the backs straight, and the air bad." Listen to the professor describe the picture before him: "So, when the class I was lecturing to was sitting in an atmosphere once breathed already, after I had seen head after head gently declining, and one pair of eyes after another emptying themselves of intelligence, I have said, inaudibly, with the considerate self-restraint of Musidora's rural lover, 'Sleep on, dear youth; this does not mean that you are indolent, or that I am dull: it is the partial coma of commencing asphyxia.' "

Dr. Dwight continues: "To make headway against these odds he did his utmost to adopt a sprightly manner, and let no opportunity for jest escape him. These would be received with a quiet appreciation by the lower benches, and with uproarious demonstrations from the *mountain,* where, as in the French Assembly of the Revolution, the most noisy spirits congregated. He gave his imagination full play in comparisons often charming and quaint. None but Dr. Holmes could have compared the microscopic coiled tube of a sweat gland to a fairy's intestine. He likened the mesentery to the shirt ruffles of a preceding generation, from which a short line of attachment expanded into yards of complicated folds."

He was very proud of his plates of the old anatomists, of which he was an ardent collector. Referring to them, he said, "Lively ladies display their viscera with a coquettish grace, implying that it is rather a pleasure than otherwise to drape their lace-like omenta and hold up their appendices epiploicæ as if they were saying, 'these are our jewels.' " He once compared an autopsy to the inspection of the fireworks the morning after the Fourth of July. On one occasion, he said, pointing to the bony outlet of the pelvis, "These, gentlemen, are the tuberosities of the ischia, on which man was designed to sit and survey the works of Creation."

Such novelties of simile and metaphor serve as admirable pedagogical expedients, but one is reminded not to mistake them for mere flippancies. Indeed, such buffooneries, not without a touch of latent irony, give savor to learning and to living. The idea that the mind learns best by being punished is a relic of the old, highly cherished notion that spiritual purity was obtained by self-abasement of the flesh. But with Holmes the business of teaching a science was a gay one, as it should be, and to him we are greatly indebted for his humanizing influence.

Holmes' life was conspicuously uneventful. His biographer says his friends knew him only as a very clever man, the best talker in Boston, the local bard, a merry wit and a great dinner table man, and one who could always be relied upon for usefulness on so-called *occasions.* Holmes was perhaps the greatest American conversationalist. He never tasted the bitterness of poverty, never saw the sordid spectacle of existence, save through academically tinted glass. Had he come forth like Velpeau, who first came to Paris destitute and in wooden shoes, his philosophy would have been cast in a less smug and optimistic mould. As a man of letters he gained popular fame, yet in all of his writings there are no eccentricities to re-

cord; they are unique in their intellectual balance, a quality not usually compatible with genius.

It was not until he had reached the half-century mark that he put forth his greatest talents. His friend Lowell prevailed upon him to be the first contributor to a newly resurrected magazine. Holmes contributed and suggested the name, *The Atlantic.* Thus the beginnings of the celebrated *Breakfast Table Series.*

"This series," as he put it, "was not the result of an express premeditation, but was, I may say, dipped from the running stream of my thoughts." The first of the series, *The Autocrat,* is perhaps the best.

In the light of present day criticism the Autocrat represents a psychoanalytical study of the American, or, better, the New England psychology of the time of the transition from the romantic democracy of Jefferson to the realistic democracy of Jackson. Holmes labored under no democratic delusions, that all men were created equal and that there is an unfathomable sagacity in the mob; that truths can be determined by the ballot. His insight attained a detachment of an ex-patriot. He wrote: "Our American atmosphere is vocal, with a flippant loquacity of half-knowledge, and half knowledge dreads nothing but whole knowledge. How could a people which has a revolution once in four years, which has contrived the *Bowie* knife, the revolver, which has chewed the juice of all the superlatives in the language of Fourth of July orations, and so used up its epithets in the rhetoric of abuse that it takes two great quarto dictionaries to supply its demand; which insists in sending out yachts and horses and boys to outstail, outrun, outfight, and checkmate all the rest of creation; how could such a people be content with any but heroic practice? What wonder that the Stars and Stripes wave over doses of 90 grains of quinine and that the American Eagle screams with delight to see 180 grains of calomel given at a single mouthful?"

His attitude was thoroughly consonant with the civilized minority; he was an aristocrat—a New England aristocrat, as differentiated from the American aristocrat, or plutocrat, "the untitled nobility which has the dollar sign for its armorial bearings."

Of Holmes' poetry two pieces attain some degree of artistic excellence. *The Last Leaf* and *The Chambered Nautilus.* Holmes has been compared to and called the American Sir Thomas Browne, Addison, Steele, Sterne, Dr. Johnson, Dryden, Pope, Moore, Lamb, Goldsmith, even Macaulay, and as preposterous as it may seem, the American Goethe. Holmes was Holmes, as distinctly American as Henry Ford. To compare Holmes with Goethe is to compare Holmes with Homer.

Holmes' literary activities continued. He did not entirely abandon medical practice, but kept a most intimate touch with the profession. As Osler said, he never neglected the festivals of Epidaurus, and for years sat amid the Æsculapians in the seat of honor. He was one of the members of the celebrated *Saturday Club,* among whom were Emerson, Hawthorne, Lowell, Longfellow and Whittier; indeed a brilliant circle.

Among his later literary achievements were several novels, essays and plays. We remember him, however, more as an essayist.

In 1886 Dr. Holmes, accompanied by his daughter, returned to the scenes of his medical student days on the Continent, and especially for an extended visit to England, where he was the recipient of many high honors.

The end came almost imperceptibly in 1894, October the 7th. His mind remained clear and active to the very last of a full life of eighty-five years.

Some one has said: "To few men can it have been given to lead a life so completely in accordance with his tastes, as was the life of Oliver Wendell Holmes." His was a life of even, sweet-temperateness, of kindness, and toleration. Never pretentious, yet not without that certain showman's sense of knowing one's audience; a teacher, medical man, poet and litterateur, a completely civilized human being of whom the profession is proud.

OF GENERAL MEDICAL AND SURGICAL INTEREST

RESULTS OF VARIOUS OPERATIONS FOR PROLAPSE OF UTERUS

Virgil S. Counseller and Leda J. Stacy, Rochester, Minn., report a series that consisted of 980 patients surgically treated for prolapse of the uterus. Of this number, replies from questionnaires were received from 819 (83.56 per cent). There were sixteen deaths, a mortality of 1.62 per cent, in the 980 cases. Satisfactory results occurred in 95.97 per cent of the entire series. Five types of operation were employed. The modified Gilliam technic of internal shortening of the round ligaments comprised one group, and various other types of internal shortening of the round ligaments combined with vaginal plastic operations comprised the second group of operations used for patients of the child-bearing period. For patients who had passed the menopause, the Mayo vaginal type of hysterectomy, the Watkins-Wertheim interposition and the Kocher abdominal fixation operations were employed. From the results it is shown that the modified Gilliam operation, combined with vaginal plastic procedures, is the operation of choice among all types of internal shortening of the round ligaments when other pelvic operation is not indicated. Satisfactory results were obtained in 88.57 per cent in which the Gilliam technic was used. The Kocher operation is reserved for that group of patients who are past the menopause, senile, and constitute poor surgical risks and for those who previously have undergone hysterectomy, with prolapse of the cervical stump. Satisfactory results were obtained in 94.87 per cent of the cases in which it was used. If the uterus is of normal size and there is a mild degree of prolapse. graded 1 or 2, with large cystocele and the patient has passed the menopause, the Watkins-Wertheim interposition operation is successfully employed. Satisfactory results were obtained in 96.61 per cent of the cases in which the operation was used. When the prolapse is of marked degree and is associated with large cystoceles, and the women are past the menopause, the Mayo vaginal type of hysterectomy is the operation of choice. It was employed in 81 per cent of the patients who had passed the menopause, with satisfactory results in 97.22 per cent.—*Journal A. M. A.*

IN WHAT POSITIONS DO HEALTHY PEOPLE SLEEP

H. M. Johnson, T. H. Swan and G. E. Weigand, Pittsburgh, made a study of 112 persons, who were under nightly observation for periods ranging from several weeks to two years. Of the healthy subjects, twenty-two were college men, housed in an experimental dormitory of the Mellon Institute; twenty were married people near middle age, and two were children. Besides this group they obtained similar records on fifty tuberculous women and on twenty patients under treatment for nervous or mental disorders, or for drug addiction, as the case might be. They also had access to the results of a similar study, made by the same method, of twenty young children, between the ages of 2½ and 5 years, and of another on varsity athletes. The results are as follows: The most typical of our healthy sleepers changes from one gross bodily position to another between twenty and forty-five times in the course of a typical night of eight hours, each of these stirs being separated from its nearest neighbor by at least two and a half minutes. Approximately half of all the postures that he takes on such a night are held for less than five minutes; about a fifth, for from five to ten minutes; about a tenth, for from ten to fifteen minutes, and so on. Less often than once a night does he lie still for as long as an hour at any one time. There are large variations among individuals, and the same individual also varies considerably from night to night. The next question is, What particular poses are favored? The answer is being obtained by photography. A motion picture camera is arranged so that it automatically takes a picture of the sleeper when he first touches the bed; a second picture one minute after he has ceased to stir; a third when he stirs again, and so on. By this ingenious apparatus the authors obtain as much information on 7 or 8 feet of film as they could get on 5½ miles of film if the camera were operated continuously. The face of a telechron clock, which hangs beside the bed, is photographed with the sleeper. Thus they can tell, by as close as one second, how long the sleeper maintains each posture that he keeps for as long as one minute. A 100-watt Mazda lamp, hung directly above the bed, provides enough illumination. It would be preferable, in many ways, to employ invisible radiation, but continuous exposure to ultraviolet rays was not desired, nor was a flashing source of ultraviolet illumination practicable. They require their subjects to wear a dark taffeta bandage over the eyes at first, but after three or four nights they become accustomed to the light and discard it. The photographic records show no more stirring than the motility meter shows in a dark room. As the subject must dispense with blankets, they employ artificial ventilation and control the temperature of the sleeping chamber at 80 ± 2 degrees F. They present a series of pictures showing the various positions that one representative sleeper assumed on one typical night, in the order in which they were taken, together with the time that each was held. The sketches were made from enlargements of the original photographs. It looks as if the most restful night's sleep is characterized by the use of a considerable variety of bodily positions, all of which are contorted; none of which indicate anything like "complete relaxation" of all parts of the skeletal muscular system, such as one may observe in a fainting person; but each of which appears to be well adapted to the relief of irritation that was set up in the posture last taken, as well as in the day's activities. To get a healthy person to spend the night in any one position that the physicians recommend, one would need to strap him to a frame, or else put him into a cast and then prop the cast.—Journal A. M. A.

INFANT DEATHS DECREASE IN U. S.

The death rate of babies during the first year of life has decreased considerably in this country during the last fifteen years. At present the rate is 67 per 1,000 births. This does not yet equal the very low rate of New Zealand which has for years held the record in the matter of a low infant death rate. There the present rate of 36 per 1,000. "This means that only three and one-half per cent of all the children born die before the year is out," a report by the Metropolitan Life Insurance Company explains. "In our own country the figure is nearer 7 per cent but this represents the very remarkable gain of 33 per cent since 1915 when the Birth Registration Area was established and infant mortality figures became available for large parts of the United States." Our present rate compares favorably with those of most other advanced countries.—*Science Service.*

THE JOURNAL

OF THE

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JANUARY, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

THE PRESIDENT'S GREETINGS

The Michigan State Medical Society enters upon a new year. It is entirely fitting at this season that we should reflect for a moment and consider whether or not as an organization, and as individuals, we have functioned to the best of our ability. Two of the prime objects of organized medicine should be to encourage, promote and foster interest in scientific research and education, and the protection of the public health. In these, we can look back over the year feeling that we have met to a large extent these obligations.

As individuals we have a definite responsibility. We must continue our interest in post-graduate study and improve our mental and physical equipment so that we may meet the growing demands of medical practice. Through the Journal, the State and County Medical Society meetings, post-graduate district conferences and post-graduate clinics, an excellent opportunity is offered each member of his State Society personally to meet this definite obligation to his patients and to society. Many of our members have availed themselves of these and other opportunities.

During the past year much has been accomplished. The Journal shows marked improvement. The Medical Legal Department, the Joint Committee on Public Health Education and the County Societies have served admirably their purpose. Post-graduate district conferences and post-graduate clinics have been most instructive and have been well attended.

Should we rest content with past achievements? The New Year brings a new challenge. Our major activities should be continued. A greater interest should be taken in the medical teaching units within our state, in the child welfare, tuberculosis, crippled children and other health organizations. A closer coöperation with them should be encouraged.

Let us fulfill our determination to make 1931 a year of outstanding progress and success for our Michigan State Medical Society. As your President, may I extend to each member of this Society my sincere wish for a full measure of happiness throughout this year as well as the years to come.

R. C. STONE.

ANTIVIVISECTION

A large number of bills have been proposed by antivivisectionists during the last forty years, but up to the present time all have been held up in committee of the various legislative tribunals to which they have been submitted. A bill, however, has been proposed and reported out of committee and will therefore come up for consideration by the House of Representatives at Washington for the purpose of making it a misdemeanor to perform any operation on the dog other than an operation for the dog's special benefit. This measure is presumed to affect only the District of Columbia. The antivivisectionists are a very small but very vociferous minority in this country. Should

they be successful in getting their bill through the House of Representatives to apply to the District of Columbia, this may be looked upon as only the entering edge of the wedge. The bill very craftily specifies exemption of the dog; no other animal so far as we know has been included. The reason is not far to seek, since for no other animal is there such sentimental attachment. The dog has been man's companion or childhood's companion from time immemorial.

To make it illegal to use dogs for experimental purposes would entail a great drawback to scientific medicine. Not only is medicine interested but likewise the zoölogist and the psychologist. Among other things the fact that the diet of the dog approximates more nearly that of man makes him particularly suitable for animal experimentation, as has been found necessary for the study of such conditions as pernicious anemia and diabetes, a kind of animal experimentation, by the way, that does not entail suffering to the dog.

We do not know to what extent animal experimentation or so-called vivisection (we like the former word better) is carried on, but feel that it should be limited or restricted to genuine research, whether it be in medicine, zoölogy or psychology. And while we have no personal knowledge of any instance in which cruelty has been practised, we would say that the most humane methods in working with these animals should be employed.

The antivivisector has become a real menace to medical research in Great Britain. According to Sir Edward Sharpey-Schafer, speaking of the handicaps under which British hospitals are working as a result of legal restrictions on animal experimentation. "Even when the hospital possesses a well equipped laboratory, experiments upon living animals, whether for diagnostic purposes or not, are usually barred by the authorities responsible for the administration of the hospital." Commenting, the Journal of the American Medical Association says: "It is not that legal permission is not obtainable, but that an application for permission would be noted by the fanatical antivivisectors, who would surely do their best thereafter to damage the subscription lists of the hospital. Samples of blood, of morbid growths or of urine destined for animal inoculation must therefore be sent out of the building. The law lays down no restriction on poisoning, drowning or trapping vermin, yet the hypodermic injection of a mouse is a matter for a deluge of antivivisectional tears. Thus organized ignorance triumphs over humanity and common sense."

The members of the House of Representatives may not be expected to understand fully the situation so far as medical research and animal experimentation are concerned any more than medical men may be expected to be conversant with technical details of other callings outside their immediate interests. If we are not to have restrictive antivivisectionist legislation saddled onto us as in some other countries each one who is personally acquainted with any legislator, be he state or national, should take it upon himself to elucidate the subject to him.

Surely the medical profession, the object of whose ministrations is to relieve suffering and to prolong life, may be depended upon to carry their humanitarianism into the animal experimentation necessary to that end.

THE LABORATORY AGAIN

A correspondent states his preference for physical, or, as he expresses it, clinical methods (which he deplores as fast becoming a lost art) to the laboratory, whether biochemical or X-ray, in the examination of patients. We would rather not mention any methods of examining patients in a spirit of preference for them to the exclusion of others, or of setting one off against the other. Medicine must be always both art and science. As an art it is much older than it is as a science. But both it must be if the best for humanity is to be achieved. The maintaining of life depends upon biochemical processes. We cannot imagine a condition in which some form of biochemical examination or consideration of biochemistry might be omitted.

As for the X-rays: this is simply a form of "inspection," a physical method. It is simply carrying method of observation to a degree impossible before Roentgen's discovery. How often does the roentgenologist hear the expression (usually from patients), "Are not the X-rays wonderful?" An X-ray apparatus is a means to an end, and as such is no more wonderful than a pen or a typewriter. It is only when there is the best possible technic combined with good diagnostic judgment, that the X-rays are capable of the greatest diagnostic service.

Wherever any instrument of precision, X-rays, biochemical laboratory, the stethoscope or the clinical thermometer (all are in the same class), contribute to clarity in diagnosis, their employment should not be omitted.

"GRAVES, WORMS AND EPITAPHS"

Among the different subjects studied by the Committee on the Cost of Medical Care is that of funeral costs.* The object of the inquiry was to ascertain whether or not funeral charges fell with undue severity on those who were least able to bear them. The investigation is based upon 15,100 instances of funeral expenditures among various economic groups. It was found that for estates less than $1,000 funeral expenses absorbed 52.2 per cent in New York, 62.1 per cent in Brooklyn, while of an estate valued at over $100,000 less than 10 per cent was spent in funeral expenses of the deceased. The average funeral bill in New York and Brooklyn was found to be $772.00, in Chicago $480.00, and in Pittsburgh $460.00. The average funeral charge for 7,781 adult policy holders of the Metropolitan Life Insurance Company was $363.00. Of the various states the highest average was $484.00 for New Jersey and the lowest $194.00 for North Carolina. It was found that funeral expenses were highest in the east, lowest in the south, with the central states ranging between these two extremes.

The report notes that funeral expenses were much higher among the Irish and Italians than among the Jews. Irish widows spend on the average of $452.00, which is 44 per cent of the net estates, while Italians spend $421.00, which represents 50 per cent of the net estates. Funeral expenditures by Jewish widows average $247.00. The observation has been made that as a rule families on the low income level frequently spend large sums on an extravagant funeral and a few weeks later apply to charity for relief.

It was also noted that the small neighborhood undertaker who attempts to make a living out of his small volume of business is more likely to take advantage of poor and ignorant families than the large undertaking establishment equipped to handle a large volume of business. The poor and ignorant family in its bereavement is disposed to spend insurance and other savings on an elaborate funeral.

The number of undertakers has steadily increased, while the annual number of deaths is subject to very little fluctuation. In 1900 there were 16,200 undertakers in the United States. This number had increased to 24,464 by 1920, an increase of 51 per cent. The estimated number of deaths for 1900 was 1,352,703, while in 1920 it was 1,384,078. The business is not by any means equally distributed. In New York City 8 per cent of the undertakers handle 44 per cent of the business; the remainder 92 per cent average twenty-five funerals a year, or two funerals a month. The smaller firms, it is noted, are therefore obliged to charge more than the larger ones. The high cost of dying, therefore, is attributed first to the desire on the part of families for elaborate funerals, and secondly to the absence of organization and to waste in the funeral industry.

The concluding paragraph of this report is: It is apparent that funeral prices cannot be greatly lowered until the volume of business, which is fixed by the death rate, is concentrated in fewer hands. This applies both to funeral directors and to manufacturers of burial goods.

*Funeral Costs by John C. Gebhart, of the Committee on the Cost of Medical Care.

THE UPLIFTER

To Professor Sumner, at one time head of the Department of Sociology of Yale University, is accredited the following formula for all social reform. A and B, who are persons of high ideals, are out of a job, get together to decide what C can be persuaded to do to reform D or to alleviate his condition. D is addicted to excesses in the use of drugs or alcohol. He is in fact a victim of social maladjustment. A and B have no money of their own to carry on the campaign of reform, so they appeal to C, who is an industrious, hard-working fellow, and by thrift has saved up some money. C, according to Professor Sumner, is "The Forgotten Man," whom nobody thinks much about except to appeal to him for money to help reform D. If C refuses his dollar to these "friends of humanity" he not only loses caste but an endeavor is made to mobilize the "moral forces of the state" to incite C to a sense of duty to compel him to take care of D and his children.

Sunday enjoyments must be cut off from C, his clubs must be closed so that D will be "removed from temptation." A and B

have good jobs at C's expense, saving D from what A and B consider defects of his nature and education. To quote Professor Sumner*: "There is no pressure on A and B. They are having their own way and like it. There is rarely any pressure on D. He does not like it and evades it. The pressure all comes on C. The question arises, Who is C? He is the Forgotten Man and as soon as he is drawn from his obscurity we see he is just the man each one of us ought to be."

COMMON COLDS

A year or so ago it was announced that a considerable sum of money had been appropriated for research, the subject being common colds, to use the ordinary expression. The work is being carried on at Johns Hopkins University under the John Jacob Abel Fund. The result so far of the scientific work is that colds are caused by a filterable virus. This finding is the outcome of elaborate experiments undertaken at the medical school and the School of Hygiene and Public Health. The discovery and isolation of the adequate causative factor carries with it the possibility of a vaccine that will produce immunity to the disease.

The experimentation has been carried out on human subjects—volunteers under controlled conditions. The virus was found to pass through the finest filters and was free from any organism that could be detected by the highest power microscopes. The discovery is said to set aside the belief that colds are produced by chemical changes taking place in the body.

Knowledge of filterable virus is of a somewhat negative nature. The virus is contained in a liquid that will pass through the finest filters but contains no microorganism which may be detected by means of the finest microscopic study. There is agreement among microbiologists that it will produce disease, but further there is no agreement.

While colds are apt to be considered somewhat lightly, they constitute the greatest single disabling factor, since it is estimated that at least forty per cent of absences from work by industrial employees is due to them. This fact means a loss not only so far as continuity of service is concerned, but also an amount estimated at two billion dollars annually in wages. Perhaps the greatest menace of the common cold is the susceptibility it produces to pneumonia, as well as other more dangerous diseases.

*The Thinker, November, 1930.

MAY COUNTY MEDICAL SOCIETIES PRACTICE MEDICINE?

Once a year state secretaries and editors of State Medical Journals respond to a call to the headquarters of the American Medical Association, where they meet in a two day convention. What do they discuss? Nothing in the field of scientific medicine or surgery. The subjects that engage their attention belong rather to the social and economic phases of medicine, such as the care of the indigent sick, health insurance or medical publicity.

There is a strong feeling that in the care of the indigent sick the medical profession is doing more than its share. The problem is not the concern of the medical profession alone; it is a community problem. As the situation is at present, provision is made in most communities to meet the expenses of every factor concerned except paying the doctor, who is expected to contribute his services, in most instances without any remuneration whatsoever.

Among the plans proposed for the care of the indigent sick is a blanket contract scheme which has been tried out in eleven counties in Iowa for periods ranging from twenty-six years to one year. The County Medical Society enters into an agreement with the supervisors of the county to provide medical and surgical care to indigents for a fixed annual sum. This sum is paid over to the County Medical Society and is divided among its members, all of whom, some time during the year, have served in a rotating service. Details of the contract plan may be obtained from the Iowa County Medical Society at Des Moines, Iowa.

Membership in the various county societies in Iowa which have adopted the blanket contract with the county ranges from ten to eighty-six. We presume the number of physicians indicates in a general way the density of population. The distribution of funds for the medical care of the poor ranges from $1,600 to the county having the ten physicians to $12,600 in the county with eighty-six doctors.

The sum paid into the treasury of the county medical societies takes care of the expenses of the society, including medical

protective insurance and fees for providing scientific programs and such other items as are ordinarily met by membership fees. The distribution of remuneration to members is made after deducting such incidental expenses as we have mentioned.

This plan should not be lightly dismissed by county societies of Michigan without serious consideration. Enabling legislation may be necessary before a Michigan County Medical Society can enter upon such a contract. The plan has been tried and proven successful in the smaller municipalities. How it would work in the larger centers of population remains to be seen.

A MORATORIUM ON DOCTORS' BILLS

This is the title of an editorial which appeared in a recent number of the Detroit Free Press, which editorial was inspired by a resolution of the executive council of the American Medical Editors' and Authors' association advising a nation-wide moratorium on doctor bills by patients out of work. This resolution had already appeared as an item of news which we felt deserved no notice whatsoever. The Medical Editors' and Authors' association, if it knows anything at all, knows that there has always been a moratorium so far as the paying of doctor bills is concerned, even by those who are not out of work, so that the resolution was construed by us merely as a gesture to attract newspaper publicity. Doctors are today as they have been always, so far as their first consideration being the saving of life and alleviation of pain, with the remuneration for the same as a second consideration. The Free Press acknowledges this: "A great many doctors and surgeons still take that attitude." In the city of Detroit alone approximately one-tenth of the population was treated in free clinics in 1929 (the statistics for 1930 are not yet available). This does not include the free treatment meted out by some fifteen hundred physicians who are not connected with clinics. The indigent sick of the city have come to be regarded as the doctor's problem, not the community's. The community is willing to pay for buildings, for the services of social workers and clerks, for medicines, but they expect the factor that is to do the actual work of caring for the indigent sick, to do it without any reward.

A moratorium on doctors' bills. Logically the only source of revenue a doctor has is his remuneration for whatever services he is able to render. Of course, if he must wait indefinitely for his fees, it means in the vast majority of cases virtual cancellation, since some people especially in large cities have a singular habit of moving from place to place every few weeks and getting lost. Many are never long enough in one place to become registered in a city directory.

The next thing in order as an aid to the doctor would be a moratorium on the part of the butcher, grocer, baker, tailor and taxation department, rent, and all other items of expense which the doctor is now expected to meet with the greatest promptness.

SPINAL ANESTHESIA

Spinal anesthesia is being employed with greater frequency than ever before. It has definite merit. It also has definite contraindications. It should not be employed ill-advisedly. Dr. Frank Kelly has outlined the following rules that one may well observe:

SUGGESTIONS OF SPINAL ANESTHESIA COMMITTEE

1. Pre-operative blood pressure limited to minimum—Systolic 90, Diastolic 60. Blood pressure recorded at least every ten minutes during operation.
2. No spinal anesthesia for operation above diaphragm. No administration of anesthetic above first lumbar interspace.
3. *Dosage:*
   1 Ampoule of spinocain (except in exceptionally large framed individual).
   1 Mg. of novocain per pound of body weight, maximum dose.
4. Spinal anesthesia should be avoided in cases of C.N.S. lues.
5. *Safety Factor:*
   Use Trendelenburg position. Check height of anesthesia constantly, until desired level is attained, then immediate Trendelenburg.
6. Spinal should be given by trained operator, approved by chief anesthetist.
7. General consent to every operation, including type of anesthesia (special form obtained by hospital).
8. Present house orders for pre-operative examination should be carefully checked; urine, heart, lungs, blood pressure.
9. Pre-operative sedative should include some barbituric acid preparation.
10. A Trendelenburg stretcher for purpose of transporting patients in this position should be obtained.
11. Spinal not to be used for minor operation, such as: dilatation and curettage; ingrown toe-nail; skin-graft; circumcision; insertion of radium, etc.

EXCEPTIONS

1. If in doubt, head of anesthetic department should be consulted.

2. Any exception to these rules should be made only after consultation with head of anesthetic department.
3. The above rules are for spinocain and novocain crystals. With gravocain, administer only in sitting position, head and shoulders elevated throughout operation. Should be used only for obstetrics, vaginal or rectal operations.
4. No pre-operative ephedrin or adrenalin shall be used in patients with systolic pressure over 150.
   Ephedrin or adrenalin should be used throughout course of operation to maintain a blood pressure over 70 systolic.
5. The pre-operative sedative should never be so great as to interfere with accurate checking of the height of the anesthesia.

NURSES' PRE-OPERATIVE ORDERS FOR SPINAL ANESTHESIA

(These orders are for adults only.)

1. BARBITAL grains 5 at 9 o'clock the evening before.
2. BARBITAL grains 10 one hour before operation.
3. Morphine Sulphate grains ¼ per hypo.
   Scopolamine Stable "Roche" one ampule 1/200 grain. (Both 30 minutes before operation.)
4. Fluids up to time of operation.
5. Record Blood Pressure on chart.
6. If in doubt about any part of procedure call surgeon or anesthetist.

POSTOPERATIVE

Unless otherwise ordered by anesthetist KEEP PATIENT IN TRENDELENBURG POSITION (Head lower than feet) For THREE HOURS FOLLOWING OPERATION.

SAMTHING WRANG WI THAE FREE CLINIC

The ither day I gaed awa' doon tae ane o' thae free Clinics, to see if my auld freen' Gordie MacIntosh, frae Aberdeen, was takin' treatments there. Naw, naw, they said, we ha'na seen ony body frae Aberdeen since the Hospital started awa back in the 60s.

A fine bonnie lassie was the clark, an she says tae me, says she, kind o' sonsie like, wad you like tae see a doctor yersel'? An' I says, aweel, I hae some bunions on ma feet thats aften botherin' me afore a storm. Hae ye got a guid doctor on bunions? Aye, we have that, says she, I'll hae ye see Dr. Fraeser, the professor o' Bunionology, or some sic thing.

So I saw the doctor an' he looked at my bunions an' felt o' them sae hard; man, but he made my auld banes crack, afore I could cry, haud! man, haud! my banes are no iron.

But he says, haud naethin', haud oot yer tongue; say ah, an' I tried tae say "ah," or something but he wad'na let me.

Then he says tae me, ye need yer tonsils oot and yer teeth, their a'fu' bad an' we'll tak oot yer appendix too.

Doctor, I says, I didna bring ony monie we me, an' I'll hae tae gang hame an' tell Maggie.

Weel, he says, ye dinna need tae hae ony monie. Yer in the free clinic an' ye micht as weel hae a' thae things done tae ye whiles yer here.

Weel, I came awa kind o' smilin' like, thinkin' o' the bonnie joke I had tae tell Maggie. I was alimpin' wi' my bunions an' a cogitatin 'aboot the man in the clinic bein' sae anxious to dae sae much surgery for naething.

Of course it shouldna tak' ony monie tae tak' oot ma fa'se teeth for I dinna sleep we them onyway.

Man, but when I tauld Maggie, ye should o' heard that woman scald.

Ye auld fool, sa's she, hae ye gon' crasy tae gang tae sic a place, we a' the paupers, dinna ye ken there's samthing wrang we ony body wha tries tae gie ye sae muckle for naethin'? There's samthing wrang I'm tellin' ye.

Aweel, I didna find Gordie MacIntosh or ony ither body frae Aberdeen.—WEELUM.

See note of introduction on Weelum, December number of the JOURNAL M. S. M. S., page 937.—*Editor.*

THE GOD OF THE MACHINE

(The New York Times)

It has become commonplace to buy cigarettes from a machine which replies with a trade slogan and a "Thank you." The next step in complete mechanization of life is a means of dispensing medical advice in something the same way. The clinic of psychotherapy in Rue Saint-André-des-Arts in Paris stands ready to supply phonograph records which will give learned advice.

One will only need to push a lever to hear a grave and professional voice pronounce sage words. No longer will the sufferer moan, "I feel feverish, worn out, full of aches and pains. Better send for the doctor." He will say instead, "I'm not feeling up to much today. Let's play disk No. 98765, 'General Depression.'"

If influenza breaks out in a city, there will be a run on the shops for record No. 1234. If measles or chickenpox threatens a school, all the pupils will march home with medical advice in their school bags. The hyponchondriac can indulge himself, and spare his physician, by investing in a complete compendium of phonographic treatments.

Human attention and sympathy will be the only lack. Perhaps something of the doctor's personality might be supplied by providing with each consultation disk a clinical thermometer, a tongue depressor and a small flask of disinfectant, or even a gray-bearded mask for the phonograph.

WHEN IS A PERSON DRUNK?

(Manchester Guardian)

[With acknowledgments to the Carlisle police who, as a test for drunkenness in the driver of a motor-car, asked him when William the Conqueror landed and who signed Magna Charta.]

The sergeant said the man was drunk and acted most suspiciously;
The surgeon said the case was one for handling more judiciously,
For if in truth the cause was drink, that danger to society,
The time had come to test him for the signs of inebriety.

But "round the rugged rock the ragged rascal" managed readily,
And he could also toe the line and walk along it steadily,
And "British Constitution" he emitted like an oracle—
So they applied their "Fourth Degree," or scrutiny historical.

With "Haydn's Dictionary of Dates" they went for him ferociously;
They asked him when Queen Anne was born—and that he muffed antrociously.
They asked him how long Stephen reigned, but he could not imagine it,
Nor did he know the epoch of one genuine Plantagenet.

When questioned on the Commonwealth he could not answer fittingly.
They asked him when Will Shakespeare died; he shook his head unwittingly.
His views on Magna Charta would have shamed a Zoroastrian,
Nor could he date a single scrap 'twixt Yorkist and Lancastrian.

To give him one last chance (for justice does not like miscarriages)
They asked him for a dated list of Henry Tudor's marriages,
But when his vague responses showed a chaos quite unshapeable
The verdict was "Oh, very drunk—and obviously incapable."

COMMUNICATIONS

THE IMPORTANCE OF CLINICAL EXAMINATION IN DIAGNOSIS

To the Editor: The experienced physician will be taxed many times in order to give his patient the best advice for his individual case, and it is most important that the patient understand the suggestions as to treatment. Patients are often advised to follow a certain line of procedure for a few days or weeks and to return for a recheck. The physician should re-examine patient as he may have overlooked some subjective or objective symptoms which may change his first impressions.

Whenever it is at all possible, if there is a question regarding correct diagnosis, recheck of the patient at different periods is important, if we are to be sure that we are doing for our patients all that we ought to do.

The surgeon of long experience will recall in the early days of gall bladder surgery, that in many cases the head of the pancreas would be found to be three or four times the normal size, and he would consider that there was a carcinoma present; he did not drain the gall bladder nor remove the gall stones, but informed the relatives and sometimes the patient, that no operation could be done, and the case was apparently hopeless.

If the physician were able to follow such patients he would find that they did not have carcinoma at the head of the pancreas, but a chronic pancreatitis secondary to gall bladder disease. It is known by repeated observation of such cases that they get along very well after drainage of the gall bladder and removal of the exciting cause.

Taking conditions for granted without going into the minutest detail of the clinical history is often disastrous for the patient. Careful observation of a sick patient, especially one confined to bed, even noting his mental and physical attitudes toward his disease, will often make a diagnosis.

Whenever possible laboratory data, excepting the routine blood counts and urinalyses, should be reserved until after clinical examination has been finished, so we may intelligently ask the coöperation of the laboratory. The laboratory should not be considered the source of voluminous reports of special examinations but its reports should be correlated with the clinical data and the proper deductions made regarding the case in hand.

With the increasing use of the laboratories it is even more important that the clinical examination by the experienced physician should be very carefully done. It is sometimes easier for a physician to resort to the electrocardiogram with X-ray of the chest than it is to make a careful physical examination of the chest, and it seems to be easier to refer patients for an elaborate G. I. X-ray series, which may be unnecessary, instead of taking a careful history followed by a complete physical examination, including digital rectal and proctoscopic examination. We do think that laboratory examinations are important, but they should never supersede the painstaking clinical examination, which we sometimes feel is becoming a lost art. The substitution of laboratory data, whether it be of the bio-chemical or the X-ray laboratory, will often result poorly for the patient.

Clark D. Brooks, M.D., F.A.C.S.
113 Martin Place, Detroit, Mich.
November 11, 1930.

PANEL SYSTEM OF MEDICAL PRACTICE IN ENGLAND

To the Editor of the Journal of the Michigan State Medical Society: Referring to the editorial in the September number of the Journal of the Michigan State Medical Society entitled Paternalism in Medicine, I wish to comment as follows:

The first part of your statement, namely, "The patient has no choice whatsoever in the matter of selecting his physician," is incorrect. It may be stated broadly that the physician has the right to choose his patients and that insured persons have the right to select the doctor by whom they wish to be attended, but no insured person who makes application for the purpose must be left without treatment immediately required, or without a regular doctor. Of course, this latter rule applies only to the obligation of a panel physician to all those entitled to medical service.

"An insured person on a doctor's list may select another doctor in the following circumstances:

(a) He may at any time apply to another doctor for acceptance on his list; if he is accepted, the new doctor immediately becomes responsible for his treatment, but if he is still in the district in which his former doctor practices, he cannot be accepted on another doctor's list unless, first, both doctors signify their consent to the transfer in writing on the patient's medical card; or,

(b) the insured person has forwarded to the

Insurance Committee his medical card with a notice of his wish to transfer and—not less than fourteen days after this notice is received by the Committee—the patient and new doctor have notified the Committee on a prescribed form of their mutual agreement to the transfer."

Notwithstanding the favorable opinions offered on the operation of the Act, Doctor Rappleye is quite right in stating that there is a distinct deterioration in medical practice.

Your statement, "The result has been, both in England and Germany, dissatisfaction on the part of both physician and patient," is, however, open to question. Of course, the whole situation is a complicated one, and has to be viewed from many angles. If you would change your sentence to read something like this—that as a result of this legislation unfortunate conditions obtain for both patient and doctor in England and Germany—you would be on sound ground. The facts are that while the doctors, in England particularly, recognize the unsoundness of the principle involved and are conscious that the quality of practice is deteriorating, they are in a better financial position than ever before on account of their assured incomes. In Germany they are not nearly so well paid and your statement is true with reference to them.

Regarding the satisfaction of the people with the plan, it is rather difficult to determine that. You will recall that before the establishment of the Medical Practice Act, the Friendly Societies provided medical care for a very considerable proportion of those now receiving medical benefits under the Act, so that large numbers have grown up under a similar plan of medical care. They have entered voluntarily into these societies on account of the cheapness on the one hand and the fact that it gave them fraternity relations on the other. The medical benefits under the present Act are so closely tied up with the operation of the dole, and the dole is so fully approved by those included in the Medical Act that, for perfectly obvious reasons, one could not get an unbiased verdict.

James D. Bruce.

Ann Arbor, December 5, 1930.

(Communications Continued on Page 59)

GENERAL NEWS AND ANNOUNCEMENTS

Have you ordered your History set?

The Council meets in Ann Arbor, January 21, 1931.

Newly revised Constitution and By-laws was published in the December issue.

You are invited to attend the Beaumont lectures at the Wayne County Medical Society January 26th and 27th.

The Annual Conference of County Secretaries will be held in Ann Arbor, January 22. See program in this issue.

Professor James Ewing, Professor of Pathology, Cornell University, is the Beaumont lecturer. His general subject is Tumors.

Dr. A. W. Crane of Kalamazoo addressed the Detroit Roentgen Ray and Radium Society, December 18, 1930, on the history of Roentgenology.

The Fifth Annual Clinic of the Highland Park Physicians Club held December 4 was well attended, the registration numbering approximately four hundred physicians.

Dr. William J. Cassidy of Detroit announces that he will give an all day surgical clinic and demonstration at St. Mary's Hospital, Detroit, Friday, January 9, 1931.

Drs. C. G. Jennings, A. F. Jennings and S. W. Wallace of Detroit have removed their offices to the Charles Godwin Jennings Hospital, 7815 Jefferson Avenue, East, Detroit.

Dr. L. J. Hirschman of Detroit has moved his office from the Kresge Building to 7815 Jefferson Avenue E. Dr. Hirschman is one of the Trustees of the new Charles Godwin Jennings Hospital.

Dr. Angus McLean of Detroit has been elected a member of the Board of Governors of the American College of Surgeons for a term of three years the term expiring with the annual meeting in 1933.

Dr. J. W. Crane, Professor of Pharmacology, University of Western Ontario, London, Ontario, was the speaker Dec. 10th at the regular monthly meeting of the Genesee County Medical Society at Flint.

Dr. H. P. Mellus was unanimously elected president of the Livingston County Medical Society which met at Howell, Michigan, September 11th. The vice-president elected is Dr. Hendron. Dr. L. A. Davis was re-elected secretary-treasurer.

The following Michigan physicians have been taking post-graduate work in Vienna during the past few months: Drs. Harry B. Weinburg, Lansing; Edward Leahy, Jackson, and Thomas O. Menees of Grand Rapids.

Dr. Walter C. Alvarez, Professor of Medicine, Mayo Clinic and the University of Minnesota Graduate School of Medicine, delivered an address on some problems of gastroenterology before the Washtenaw County Medical Society on December 17th.

The cornerstone for the new Grace Hospital Unit, Detroit, was laid December 11th. The Unit is being erected for the accommodation of patients of moderate means. The sum of $850,000 was subscribed last May to defray the cost of the new Hospital Unit.

Dr. Walter J. Wilson, Jr., has returned from London, where he took special cardiac courses in the National Hospital for Diseases of the Heart. During his stay in Europe he also visited in Paris. He will be associated with his father, Dr. Walter J. Wilson, in offices at 1718-20 David Whitney Building, Detroit.

Volume 29, 1930, of the Journal of the Michigan State Medical Society contained the largest number of pages of reading matter exclusive of advertising of any single year since it began to be published in

1901. The size for the past four years varied as follows: (1927) 756 pages; (1928) 860 pages; (1929) 901 pages and (1930) 965 pages.

Dr. H. P. Mellus is building a new modern hospital at Brighton. While the hospital is the property of Dr. Mellus it will be placed at the service of all local physicians when completed. The building will be a fine two-story specimen of Georgian architecture facing Grand River Avenue. The equipment will include all approved up-to-date apparatus necessary for diagnosis and treatment.

The Beaumont Foundation lectures given by the Wayne County Medical Society will be held January 26 and 27, 1931. The lecturer for 1931 is Dr. James Ewing, Professor of Pathology, Cornell University. The general subject is Tumors. The course will consist of three lectures, the first Monday evening January 26, the second Tuesday, at 10 A. M. and the third Tuesday evening. The members of the Michigan State Medical Society are invited to be present.

The various forms of nephritis comprised the subject of lectures and clinical demonstrations given at Harper Hospital on December 11th. The program was arranged for by the Department of Urology of the Hospital and was sponsored by the Detroit branch of the American Urologic Society. Those taking part were Dr. Charles Brown, Associate Professor of Internal Medicine at the University of Michigan; Dr. S. Lewis of McGill University and Dr. Plinn F. Morse, Pathologist of Harper Hospital. The clinic was in charge of Dr. Fred H. Cole, Chief of the Division of Urology at Harper Hospital.

The following physicians have been appointed on the Committee to take care of the public meeting on Friday, January 16, 1931, at 8:15 P. M. in the auditorium of the Northern High School, Detroit, at which meeting Dr. Austin A. Hayden of Chicago will give an address on a subject concerning the deaf: Drs. Emil Amberg for the Detroit League of the Hard of Hearing; B. R. Shurly, President Detroit Board of Education, who will introduce the speaker of the evening; Dr. Milton Robb, President Wayne County Medical Society; Dr. Don A. Cohoe, President Detroit Otolaryngological Society; Don W. Gudakunst; R. Lee Laird; W. J. Stapelton, Jr.; F. C. Witter; Howard W. Peirce; F. T. Munson; A. P. Wilkinson. The meeting will take place under the auspices of the Detroit League of the Hard of Hearing. Several prominent lay people have also expressed their willingness to serve on this committee. The list is not yet completed.

The new Charles Godwin Jennings Hospital, corner of Jefferson and Seyburn Avenues, Detroit, was opened November 28, 1930. This hospital was erected by grateful patients and friends of Dr. Jennings. It is a sixty-six bed general hospital with six bassinets. There is an office building fronting on Jefferson Avenue which is occupied by physicians and surgeons who are independent and not practising group medicine. Rental from the doctors' offices in this building is used as an endowment to take care of patients unable to meet the cost of hospitalization. Otherwise the rates are the same as those of other general hospitals.

Number 3, Volume I, of the Journal of the Detroit College of Medicine has just reached us. It is edited by Dr. James E. Davis, Professor of Pathology of the Detroit College of Medicine and published by the Detroit Board of Education. The contents for this number are as follows: How to Write a Paper, by Professor Thomas G. Rankin; A Study of the Paratypic Influences on the Human Constitution, by M. N. Walsh; Report of a Case of Sarcoma of the Ovary in a Child, Emil D. Rothman; The Thyroid Problem in Retarded School Children, C. J. Marinus and O. P. Kimball; and Rupture of the Uterus, F. A. Fennig.

On November 30th memorial exercises were observed by the Polish American Society in Detroit commemorating the revolution in Poland. At this meeting Dr. Angus McLean of Detroit gave an address recounting the career of Dr. Paul Fitzsimmons Eve. Dr. Eve died in 1877 while on his way to visit a sick patient. He was one of the most illustrious American physicians of his time, a university professor and author who happened to be the only American volunteer to take part in the Polish uprising of Nov., 1830—just one hundred years ago. He went to Europe to devote himself to the study of surgery, spending eighteen months in attendance on lectures of famous French surgeons. It was while he was in Paris that news up the uprising of Warsaw reached him, when he immediately enlisted on the side of the Polish cause. Dr. Eve was one of the founders of the American Polish committee organized for aiding Polish insurrectionists. He served as field physician of the 15th Infantry regiment during the stormy times in Poland, for which he was awarded the Gold Cross of Merit. The revolution over, Dr. Eve returned to his native land, where he organized the Medical College of Georgia, having occupied the chair of surgery from 1832 to 1849. He also saw service in the war between Mexico and the United States.

W. K. KELLOGG FOUNDATION

Dr. Stuart Pritchard, who was formerly a member of the staff of the Battle Creek Sanitarium, has been appointed Medical Director of the W. K. Kellogg Foundation, with headquarters at Battle Creek.

The W. K. Kellogg Foundation was formed by Mr. W. K. Kellogg of Battle Creek, Michigan, in November, 1930. This Foundation will replace and enlarge the scope of the W. K. Kellogg Child Welfare Foundation created a few months ago. The purposes of this organization are to help directly and indirectly to benefit children, such as the prevention and treatment of mental and physical affections, improve the facilities in education and to encourage all well balanced and scientifically sound methods; to help to improve conditions under which children exist. Also to help adults insofar as it has a direct influence and bearing on the health and welfare of children, such as prenatal care of the mother, guidance and help to the mother during the nursing period.

The governing body of this organization will consist of seven trustees already appointed. When a vacancy exists the choice will be by the remaining six and in rotation suggestions for the vacancy will be asked from Regents of the University, Governor of the State of Michigan, Judge of the Circuit Court and other representative bodies and prominent offices in the State.

The scope of the organization is not limited to any clime, race, religion or geographical boundaries. Present officers are W. L. Smith, President; Eugene McKay, Vice-president; L. J. Brown, Secretary and Treasurer, and Dr. Stuart Pritchard, Medical Director; Attorney Burritt Hamilton, Director; Dr. A. C. Selmon, Director; Earl Freeman, Director.

This Foundation will in all probability be the organization from which similar activities of Mr. Kellogg will be executed.

SOCIETY ACTIVITY

PROCEDURES TO BE FOLLOWED WHEN A DOCTOR IS THREATENED WITH MALPRACTICE SUIT

There seems to be considerable misunderstanding as to what course should be pursued when a member is threatened or is sued for malpractice. The Medico-Legal Committee of the State Society will defend every member in good standing through all the courts. In order that there may be no entanglements and that proper legal protection may be given, members are urged to observe the following instructions—

When threatened with suit or when served with a bill of complaint for malpractice, notice should be *immediately* given to the Medico-Legal representative of your local county society. Notice should also be *immediately* given to Dr. F. B. Tibbals, chairman of the Medico-Legal Committee, 410 Kresge Building, Detroit, Michigan, together with all papers or notices that may have been served upon you.

It is important that a member does not discuss either with an attorney or with the plaintiff any of the facts or details concerning the suit. Pursue a course of absolute silence and await full instructions from Dr. Tibbals. Do not engage any local attorney, but await instructions that will be given to each member in regard to the employment of legal talent. This procedure is absolutely essential and imperative in order that you may be surrounded with the fullest protection.

Members are urged, when attending fracture cases, to have an X-ray picture made before any attempt at reduction or treatment, and also to have several X-ray pictures taken during the course of treatment and upon the final discharge of the patient. Failure to do so makes procedure for defense difficult.

Remember, in all suits or threats of suit, to *immediately* send a full report to Doctor Tibbals.

GREETINGS TO NEW OFFICERS

In almost all of our County Societies, new presidents and some new secretaries have assumed the duties of these respective county offices. We extend to them our compliments and greetings. Our sincere wishes are for a year of successful work and achievements.

The day is past when one may consider such selections as being honor tributes. They are honor tributes because your fellow members deem you worthy and capable. They entrust their organizational interests to you for leadership and protection. In accepting your office you have assumed an obligation, a serious obligation. You have assumed a year of intensive, time consuming labor. You have agreed to take and do a job. We trust you are determined to meet up to the task before you. It is your opportunity to serve and cause your society to record a successful year. We are eager for your success and desire to encourage your zeal as well as to assist you.

Please command your State Secretary whenever he can render assistance or impart information. The facilities of this office are at your disposal. It is desired that you utilize them. A year hence we shall be proud to record the results that your work achieved.

BOSTON MEDICAL JUN 37

NEW YEAR RESOLUTION

Never has there been a time like the present in which there was such an urgent demand for coöperative service. Through officers and committees an earnest effort is being made to attain the ideals in public relations and to secure a sound economic policy. It is impossible to establish fundamental principles when individuals and groups show lack of interest. Therefore the plea is advanced that all our members subscribe to and carry out the following:

The Milwaukee *Bulletin* suggests that each physician ask himself the following questions in attempting to analyze just how much he has, or has not, contributed to his profession and to organized medicine:

1. Have I coöperated with my fellow practitioners as I should, or do I criticize them when the opportunity presents itself?
2. Have I given serious thought to the activities of the County Medical Society, and organized medicine as a whole?
3. Have I offered a constructive thought in the cause of medicine, or do I resort to carping and useless criticism?
4. Have I taken proper interest in public health and preventive medicine?
5. Have I cultivated the vision which embraces public welfare and sees beyond the present, and includes the possibilities of the future?

ANNUAL DUES

January comes and brings the time for the payment of the 1931 dues. Yes, collections have been poor. They will be worse if you fail or delay payment of your annual dues. Your County and State Society is intensely engaged in concerted endeavor to not only conserve but to enhance your personal and professional interests. Funds are required. Our dues are a low premium rate for this protection.

Please remit promptly to your County Secretary. Do not place the burden of collection on your Secretary. Send him your check for 1931 dues during this current month.

ANNUAL CONFERENCE OF COUNTY SECRETARIES

The 1931 conference of County Secretaries will be held in Ann Arbor, the Michigan Union, on January 22, 1931. The attached program will govern the conference. During the noon hour luncheon will be had with the Joint Committee on Public Health Education. The luncheon will be presided over by Dr. Ruthven, President of the University.

County societies are urged to send their Secretaries to this conference. County Secretaries are urged to attend. The new year is fraught with many important problems. Successful solution can only be attained by the combined efforts of all our units. This conference will indicate its scope.

COUNTY SECRETARIES' CONFERENCE

Ann Arbor, Michigan, Michigan Union
January 22, 1931

10:00 A.M.	Welcome—President Stone
	The Council—B. R. Corbus, Chairman.
	Activities—Secretary
12:00 M.	Luncheon
1:15 P.M. to 1:35 P.M.	Legislation What Responsibility Devolves Upon the County Society A. H. Whittaker, Detroit
1:35 P.M. to 2:00 P.M.	Discussion
2:00 P.M. to 2:20 P.M.	County Programs Phil Riley, Jackson
2:20-2:40 P.M.	Discussion
2:40 P.M.	Invited Guest—C. W. Waggoner, President Ohio State Medical Society
3:15 P.M.	Medico-Legal Problems F. B. Tibbals, Detroit
3:35 P.M.	County Health Units C. C. Slemons, Lansing State Commissioner of Health
4:00 P.M.	Pediatric Clinics A. D. La Ferter, Detroit

MID-WINTER SESSION OF THE COUNCIL

The Mid-winter Session of the Council will be held in the Michigan Union, Ann Arbor, at 2:00 P. M. on January 21, 1931, for the transaction of such business as may properly come before the Council.

B. R. Corbus, *Chairman.*

The Council will hold an afternoon and evening session on the twenty-first. On January 22 the Council will participate in the Annual Conference of County Secretaries.

MINUTES OF THE DECEMBER MEETING OF THE EXECUTIVE COMMITTEE

The December meeting of the Executive Committee of the Council was held in Grand Rapids on December 11, 1930.

Present—B. R. Corbus, Chairman; J. D. Bruce; Henry Cook; G. L. LeFevre; R. C. Stone, President; Carl F. Moll, President-Elect; F. C. Warnshuis, Secretary.

1. The Secretary presented several communications pertaining to legislation. A draft of a bill proposing certain amendments to the Public Act that creates a registration board for trained nurses was presented, and

upon motion of Cook-Le Fevre was referred to the legislative committee with the request that they study the proposed amendments and make recommendations to the January session of the Council as to what the position of the society shall be in regard to the support of this bill.

2. The Secretary presented a memorandum of the proposed amendments to our Medical Practice Act and indicated what these amendments would accomplish. This was for informative purpose, as these amendments are being sponsored by the Board of Registration in Medicine and also the Attorney General's department of the state. They do in no way originate in the state society.

3. The Secretary presented several communications from the American Medical Association relative to national legislation. Upon motion of Cook-Bruce, the policy was determined upon that our state society will support the legislative activities of the American Medical Association and through the Chairman of the Council and the Secretary of the Society our legislative influence would be recorded with Michigan senators and representatives.

4. The Secretary presented further correspondence on the subject of "State Medicine" which has been recommended to various high schools and colleges as a subject for debate. A communication was read from the American Medical Association stating that a pamphlet giving informative data would be made available at an early date. Upon motion of Cook-Le Fevre, the Secretary was instructed to secure a supply of these pamphlets to be sent to all making inquiry for information upon the subject.

5. Upon motion of Le Fevre-Cook, the Secretary was directed to pay the traveling expenses of county secretaries attending the annual conference of county secretaries.

6. Upon motion of Le Fevre-Cook, the Chairman of the Finance Committee and the Secretary were directed to exercise their best judgment in the matter of dealing with members who are delinquent in their 1930 dues.

7. Upon motion of Le Fevre-Bruce, the Secretary was directed to make another payment of $1,500 to the Bruce Publishing Company, which will be applied on expense of publishing the history.

8. The Secretary presented an extended report upon his conference with the officers of the Oakland County Medical Society relative to arrangements for the 1931 Annual Meeting. Upon motion of Cook-Le Fevre, this was referred to the Mid-Winter meeting of the Council for further discussion and official approval.

9. The Secretary presented a communication relative to the Pershing memorial that is being erected in Paris as a memorial to the American army. A room in this memorial is to be set aside for the medical profession of the country. The American Medical Association has agreed to sponsor the furnishing of this room at a cost of approximately $10,000.00, and is requesting voluntary subscriptions from the profession. On motion of Le Fevre-Cook, the Secretary was directed to address a communication to each county society asking each county unit to contribute whatever sum they felt able to send, and to send these contributions to the state secretary, who in turn would send them to the American Medical Association, credit being given in each instance to the county society subscribing.

10. On motion of Cook-Le Fevre, the Medico-Legal committee was commended for its intent to send a personal communication to each doctor regarding the work of the committee and the procedure that members should observe when applying for the protection accorded by this committee. The sentiment was further expressed that it would be a desirable policy to address such a letter once each year to our members in order that they may more fully understand the important benefits that they are obtaining because of the work of the Medico-Legal committee.

11. The Secretary read a letter from the Secretary of the Houghton County Medical Society relative to Post-Graduate clinics in the Upper Peninsula. This was referred to the Post-Graduate committee of the Council for consideration and recommendation that the request be granted.

12. The Secretary presented a communication from the Chairman of the society's Cancer Committee in which a request was made that the Council undertake a survey of the state. On Motion of Cook-Bruce, this communication was referred to the general meeting of the Council in January.

13. The Executive Committee engaged in a long discussion of the report of the committee on Hospital Survey. Upon motion of Bruce-Le Fevre, the Chairman of

the Council was instructed to address a letter to the President of the University of Michigan requesting his advice as to the procedure to be followed in order to obtain further consideration of this report by the Board of Regents.

The Executive Committee adjourned at 10:00 P. M.

F. C. Warnshuis,
Secretary.

MEDICAL HISTORY

By action of the Executive Committee of the Council, the Secretary was authorized to enter into arrangements with the G. A. Ingram Company for the sale of our Medical History.

In compliance with these instructions, the G. A. Ingram Co. has been duly appointed as the society's agent for the sale of our history. The sales force of the Ingram Co. will call upon all the doctors in the state and will solicit their subscription.

Members are hereby notified that such solicitation is being made with and under the authority of the Council.

COUNTY SOCIETIES

CALHOUN COUNTY

The November meeting of the Calhoun County Medical Society was held at the Kellogg Inn, Tuesday evening, November 4, 1930. Thirty members enjoyed the dinner provided, and twenty others came in at 8:00 o'clock to listen to the program. The President, Dr. Wilfrid Haughey, presided. After adoption of the minutes, as published in the Bulletin, Volume XIII, Number 9, the following bills were approved for payment:

Flowers	$8.00
Secretary's Expense	10.88
	18.88

A statement was made by the secretary that an effort was being made to establish a Doctors' Service Bureau, and that in view of the possibilities of such a Bureau, it might be well to investigate the inner workings and personnel of those interested. Dr. Gorsline also suggested that the Society might do well to go into the proposition and moved that a committee of five to be appointed to look into the matter and bring in a recommendation to the Society at its next meeting. The following committee were appointed:

Dr. Gorsline, Dr. Becker, Dr. Allen, Dr. Mustard, Dr. Knapp.

The President brought up the subject of the care of the indigent, and a discussion of the subject revealed the fact that the new incumbent of the Poor Commissioner's office was anxious to coöperate with the medical profession, and would welcome the appointment of a committee to work out a plan by which some of the annoyances of the past could be avoided. On the motion of Dr. Allen, it was voted to appoint such a committee. The following members were named:

Dr. Stone, Dr. Sleight, Dr. Putnam.

The President called attention to the recent death of Dr. H. A. Shurtleff, and the fact that this was the fifth loss to the Society during the year.

The essayist of the evening, Dr. Don H. Duffie, of Central Lake, was introduced and presented the subject of the Management of Diabetes in a very pleasing and interesting manner. He called attention to the pathetic plight of the rural diabetic, who, he thought, could be managed by the general practitioner, providing a few simple steps were taken to start him along the right road.

Meeting adjourned. Members present, fifty.

Harry B. Knapp, *Secretary.*

REPORT OF SECRETARY-TREASURER
1930

Receipts

Balance on hand end of 1929	$ 43.61
From dues, 115 at $15.00 each	1,725.00
	$1,768.61

Expenditures

Per Capita, 115 at $10.00 each	$1,150.00
Printing, Stationery, Letters, etc	46.90
Speakers and Entertainment	88.05
Secretary's Expense, Postage, Mailing, etc	54.83
Flowers	54.00
History of Michigan Medical Society, Vol. I	5.00
Miscellaneous	22.04
Secretary's Fee	50.00
	$1,470.82
Balance, 1930	297.79

BERRIEN COUNTY

The members of the Berrien County Society were the guests of the Cass County Medical Society at Dowagiac, November 25.

The Cass men entertained with a turkey dinner held at the Lark Inn. About 50 members of the two societies were present.

A short business meeting was held by the Berrien Society and the names of Drs. R. J. Brown, Robert Regan, and Irving Colof were voted on for membership. A nominating committee was appointed consisting of Dr. Henderson of Niles, Dr. Strayer of Buchanan and Dr. Witt of St. Joseph to bring in names at the December meeting for the 1931 officers. This meeting will be held in Benton Harbor.

Following the business meeting an excellent talk was given by Dr. N. Sinai of Ann Arbor, a member of the research staff of the Committee on the Cost of Medical Care.

From the data already ascertained by the committee it is the impression of Dr. Sinai that the medical profession is on the verge of a great change in the practice of medicine. He believes that the profession by study and coöperation will be able to regulate this change from one of revolution to that of evolution.

Stressing the point that the physicians are dissatisfied with the income on their investment as much as the patients are dissatisfied with the cost of medical care there must be some adjustment of the situation. He also feels that in order to complete the work of the Committee on the Cost of Medical Care they must make some recommendations to ease the present situation.

Perhaps the solution lies in education of the public; perhaps it is the fault of the state in demand-

ing the registration and license of the physician without providing him with protection. Perhaps the problem will be solved by universal health insurance similar to the present accident compensation. All these problems were presented in Dr. Sinai's talk.

A unanimous vote of appreciation was given Dr. Sinai by the combined societies.

The October meeting was held in Niles and was addressed by Dr. William Shackelton of Kalamazoo on "Surgical Conditions of the Kidney," and was accompanied by a companion paper by Dr. J. B. Jackson, also of Kalamazoo, on "X-ray diagnosis by Means of Uroselectan." These papers were extensively discussed and the value of the new X-ray media in cases of surgery of the kidney was demonstrated.

W. C. Ellet, *Secretary.*

MONROE COUNTY

The last meeting of Monroe County Medical Society was an event of outstanding interest.

Routine business was cared for quickly.

Dr. T. A. McDonald, eye, ear, nose and throat specialist, of Monroe, was elected to membership in the society.

Then came the big feature. Dr. M. A. Hunter, Monroe, president, presented Dr. George B. McCallum, now in his fiftieth year of practice in Monroe, with honorary membership in the Monroe County Medical Society. He was followed by Dr. James D. Bruce, Ann Arbor, our district councillor, who conferred on Dr. McCallum honorary membership in the Michigan State Medical Society.

Dr. McCallum responded with thanks for the honors conferred and told of the early days of practice in Monroe. He continued with reminiscences of the organization of Monroe County Society in 1895. Dr. McCallum was our first secretary and our fifth president. He has been active in the work of the society.

The program was concluded by an address by Dr. Bruce, "The Periodic Physical Examination, with Special Reference to the Heart in Middle Age," illustrated by lantern slides.

Dr. and Mrs. Bruce, Dr. and Mrs. Haynes, of Ann Arbor, and the wives of the members were guests of the society.

Florence Ames, M.D., *Secretary.*

HILLSDALE COUNTY

The regular meeting of the Hillsdale County Medical Society was held at the Lantern Tea Room, Hillsdale, Tuesday, November 11, 1930, at 6:30 P. M., President Poppen in the chair. Dinner was served, after which the president introduced Hon. R. W. McLain, chaplain of the State Prison at Jackson.

Dr. McLain gave an informal and most interesting talk on his experiences as chaplain there. He discussed the crime wave now sweeping over the country and the enormous increase in the number of prisoners confined there in recent years; there being now some 6,000 men of all grades of criminality, from those in prison for selling a bottle of whiskey to the most cruel and desperate murderers.

Speaking of the causes of this condition, he placed the responsibility chiefly on the alarming lowering of the *morale* of our people; the utter want of any religious, moral or ethical training of the rising generation in so many of our homes and schools. As another cause, he spoke of the number of hasty, ill-considered and too early marriages: throwing the heavy responsibilities of motherhood, home making and rearing a family on mere school girls wholly unfitted, physically or mentally, for the mighty task.

Contrary to the popular belief, he did not find the greatest number of criminals among our foreign born population, or among mature men. He said he had found the most desperate and hardened criminals among young men, born in our own country, of American parents.

Other causes spoken of, were the increasing willingness of so many to accept charity in any form, to live off the public, and to indulge in wasteful and extravagant living. After Dr. McLain's excellent address, the report of the "committee on the care of the indigent" was given. Dr. Sawyer, the chairman, gave all the data he had been able to collect as to the customs of other counties, especially that of Wexford. But the time not having been sufficient, the committee requested and were granted an extension of time.

Dr. Poppen then reported a "case of appendicitis, followed by obstruction of bowel and ileus." This report was most instructive, showing—first, the great importance of early diagnosis and operation in appendicitis; second, the great value of intravenous injections of normal salt solution and glucose when nourishment by the stomach is impossible, and third, the importance of holding on in the presence of almost certain death and thus sometimes snatching victory from apparently certain defeat. Dr. Poppen and Dr. Green, who was associated with him in this case, are to be congratulated.

At the close of the meeting, in view of his sympathy with the profession and his regular attendance at our meetings, Mr. Geo. D. Schermerhorn of Reading was elected an honorary member of this society.

Adjourned.

D. W. Fenton, *Secretary.*

LUCE COUNTY MEDICAL SOCIETY

The December meeting of the Luce County Medical Society was held the evening of December 9, 1930. The first feature was a motion picture, "Traumatic Surgery of the Extremities," made possible through the courtesy of Davis & Geck, Inc., and the coöperation of Mr. Tom Shimmens of the State Theatre.

Following, the members and their ladies enjoyed a venison dinner at the home of Doctor H. E. Perry. After dinner the ladies played bridge and the meeting called to order.

The following officers were elected for the ensuing year. President, Dr. J. T. Redwine; Vice President, Dr. R. E. L. Gibson; Secretary-Treasurer, Dr. Geo. F. Swanson; Delegate to the State Convention, Dr. H. E. Perry, with Dr. E. H. Campbell as alternate. A vote of thanks was extended Dr. R. E. Spinks, the retiring President, for the conscientious and efficient service rendered during the past year.

Geo. F. Swanson, *Secretary.*

IONIA-MONTCALM COUNTY

The November meeting of the Ionia-Montcalm Medical Society was held at the Winter Inn, Greenville, preceded by a chicken dinner, twenty guests partaking.

Minutes of the October meeting were read and approved.

By-law regarding Dentists as Associate members was adopted.

Motion was made that committee be appointed to draft and send proper resolutions to the family of the late Doctor Alton (Mrs. Herbert Emery and Dr. Robert A. Alton), and that a copy of the resolutions be forwarded to the State Journal.

Dr. Robertson appointed Doctors Toan and Bower to constitute such a committee.

The paper given by Dr. Currier on "Disturbances of Gait," and Doctor Davis on "Encephalography," were well received; though highly technical, they were markedly interesting and splendid demonstrations of skill in diagnostic methods.

The Committee on Resolutions of the death of Doctor Alton reported.

The following resolution offered by Doctor Toan, supported by Doctor Bower, was unanimously adopted:

"Whereas, the late Dr. Robert W. Alton has been for many years an honored member of the Ionia-Montcalm Medical Society;

"Resolved: that we feel in his death a deep sense of personal loss and keen regret; and that we extend to his bereaved family the warmest sympathy of our Society, and further

"Resolved: that this resolution be spread upon the permanent records of the Society, and that a copy be sent to the family of Doctor Alton."

Dr. G. A. Stanton was named chairman of the program for the annual meeting in December, at Belding.

John J. McCann, *Secretary.*

OAKLAND COUNTY

The monthly meeting of the Oakland County Medical Society was held at the Board of Commerce, Pontiac, on Tuesday evening, November 18, 1930, at 8:30 P. M.

In the absence of the President the chair was occupied by Vice-President John S. Lambie.

The minutes of the previous meeting were read and approved.

The applications for membership of Dr. Walter I. Werner, Oakland County Tuberculosis Sanatorium, and Dr. Joseph H. Boutwell, Clawson, were read and referred to the Board of Directors.

Doctors C. T. Ekelund and F. A. Mercer presented a report of the delegates to the State Medical Society Meeting, the report being read by Dr. Ekelund.

Dr. Furlong demanded that details be given regarding the aftermeeting, held in honor of the House of Delegates where more than food was served.

Dr. F. A. Baker moved that the report be accepted and that a vote of thanks be extended to our distinguished representatives, especially to the author of the report. Supported. Carried.

Dr. Murtha apologized for not having published the report of the delegates in the "Bulletin" and stated his reasons for not publishing same.

Dr. Larson inquired as to the advisability of holding the Annual Meeting at the same hour as for this meeting. In the discussion that followed it was felt that if the dinner preceded the meeting a larger attendance could be looked for from the communities outside of the city.

Dr. Ekelund stated that he had been appointed a member of a committee of the Michigan State Medical Society to consider the wisdom of promulgating legislation requiring annual re-registration. He told of a meeting of the committee in Detroit which was followed the same evening by a meeting with the Legislative Committee of Wayne and the Executive Committee of the Council. He outlined the policy formulated last spring by the State Legislative Committee, a policy that did not anticipate a demand for any legislation during the coming session of the Legislature. He stated that that policy was likely to be changed, largely due to the efforts of the Wayne County Committee. He stated that the plan of Dr. Sundwall's Committee was the one to adhere to but that it did not take care of the matter of re-registration. The committee has gone on record as favoring the principle of re-registration as an aid to the enforcement of the Medical Practice Act. He stated that in states where re-registration had been put into effect that there had been much opposition at the start but that it had been gradually overcome, that in states where it had been tried the result has been uniformly good, that in New York State alone over a thousand quacks and charlatans had been driven out of the State.

Dr. Lambie, in opening the scientific part of the meeting, stated that a home-made program was to be presented and that like all home-made articles it ought to be good.

The first paper presented was by Dr. B. T. Larson who discussed "The Diagnosis of Mastoiditis." He first presented an atypical case history and among the points brought out were that the condition is frequently unaccompanied by pain or tenderness over the mastoid bone, that when middle ear disease exists for more than four weeks, consider possible a mastoid involvement, and that when the discharge persists for more than seven weeks, we have very reasonable assurance that the mastoid is involved. He stated that the X-ray was particularly valuable in a series of exposures with at least five days elapsing between exposures.

The paper was discussed by Doctors Pool, Ferguson, Colvin and Ekelund.

Dr. Harold A. Furlong presented a brief report on the "Early Diagnosis of Pregnancy by Means of the Aschheim-Zondek Reaction." He outlined the three characteristic reactions and told something of the technic used to carry out the test. He stated that this reaction offers a reliable method for the early diagnosis of pregnancy, hydatidiform mole, and malignant chorio-epithelioma.

Dr. L. C. Sheffield presented a report of 85 cases of disease of the genito-urinary tract that had been under his observation for the past three years, a report on those cases that had a complete genito-urinary examination, that is a cystoscopic examination of the bladder, urethral catheterization, split kidney functional test, complete bacteriological and microscopic examination of the urine and a pyelo-ureteral gram.

Summary:

1. In a series of 85 cases, 76 cases showed infection in one or both kidneys. In two cases this infection was due to t he tubercle bacillis. Two to gram positive cocci. The infecting organism being isolated in all but five cases.
2. Calculi occurred in one case.
3. Malignancy of bladder in one case.
4. Upper urinary obstruction in two cases.
5. Lower urinary obstruction in one case.
6. Two cases showed no genito-urinary pathology.

In conclusion he wished to emphasize the necessity of a complete urological examination in any case with urinary tract symptoms which persist longer than six weeks under medicinal treatment. Also the necessity of an immediate urological examination in any case of hemituria.

This paper was discussed by Dr. A. V. Murtha and others.

Dr. Lambie extended the thanks of the Society to Doctors Larson, Furlong and Sheffield for the interesting program they had presented.

GRATIOT-ISABELLA-CLARE COUNTY

The December meeting of the Gratiot-Isabella-Clare County Medical Society for the members and their wives was held in the Wright House, Alma, Thursday, December 11, 1930. Thirty-seven had dinner together, after which President Budge called the meeting to order. The annual report of the Secretary was read, which showed we had 27 members

for 1930. During the year we have held 10 meetings, which were addressed by 14 speakers. After 1929 expenses were paid, the treasurer showed a deficit of $5.40. The receipts of $3.00 per member did not quite equal our expenses for 1930. It was moved that the Secretary be permitted to collect 50 cents from each member present to make up the deficit—motion seconded and carried.

The application of Dr. Kenneth P. Wolfe of Wheeler for membership having been recommended by the Board of Censors, he was regularly elected to membership.

The nominating committee nominated officers for 1931 as follows: President, W. L. Harrigan, Mt. Pleasant; vice president, C. E. Burt, Ithaca; secretary-treasurer, E. M. Highfield, Alma; delegate, T. J. Carney, Alma; alternate, W. G. Young, Shepherd.

Motion was made and seconded that the rules be suspended and the above officers be declared elected for 1931. Motion carried.

Councilor Julius Powers was called on at this time to tell what he thought of us, which he did to every one's satisfaction.

On motion business meeting was then adjourned.

Mr. John C. Caldwell of Parke, Davis & Co. then showed a very interesting film entitled "How Biological Products are Made." After this President Budge introduced Dr. C. C. Grieve, who retired from the Navy with the title of Captain. The Doctor related many interesting things in connection with his work at Haiti, Panama, Alaska, Hawaii, Gaum, Philippines, China and Japan.

E. M. Highfield, M.D.,
Secretary.

KALAMAZOO ACADEMY

Our success, I believe, must be judged by our attendance and the type of scientific program we have; this being so, I think we have really had a good year. The attendance with no exceptions has been very good and the scientific papers and demonstrations have been of exceptionally high quality.

Here's wishing the new secretary, not one, but three Happy New Years.

The regular meeting of the Kalamazoo Academy of Medicine was held November 18, 1930, in the Academy Rooms at the Library. About 60 members were present for dinner and the meeting.

The scientific program was given by Dr. Raphael Issacs, M.D., Assistant Director of the Thomas Henry Simpson Memorial Institute for Medical Research, Ann Arbor, Michigan. The subject was "The Different Kinds of Anemias; their Diagnosis and Treatment." This was presented in a very interesting and practical way and was immensely enjoyed by the members.

Clippings of numerous fake advertisements for blood builders were exhibited to the amusement of everyone (Jack Dempsey—Berry's favorite—was trained on nuxated iron according to one striking ad).

The minutes of the October meeting as printed in the bulletin were approved.

No committee reports.

Dr. Clayton Ettinger's application for transfer to membership, which was read the previous month, and passed by the board of censors was presented for action. Dr. Collins moved that he be elected to membership, seconded and unanimously carried.

Dr. Mary C. McIntyre's application for transfer to membership, which was passed by the board of censors, was presented for action. Dr. Westcott moved that she be elected to membership. The motion was seconded and unanimously carried.

Annual Meeting.—Dr. Westcott moved that the entertainment committee be requested to arrange a banquet for the occasion. Seconded and carried. Dr. F. T. Andrews moved that the wives and ladies be invited and that a speaker be obtained for the occasion. Seconded and carried.

The president appointed the following on the nominating committee: L. E. Westcott, W. E. Collins, F. T. Andrews, B. A. Shepard, D. E. Squiers.

Meeting adjourned.

TREASURER'S REPORT

December 2, 1930

Receipts

Dues from Members		$2,058.50
Disbursements		
State Society	$1,160.00	
Guests	113.04	
Bulletins	180.98	
Postage and Stationery	61.12	
Telephone	86.73	
Lights and Gas	17.68	
Flowers	18.25	
Insurance	35.00	
Janitor	75.00	
Miscellaneous	375.53	2120.33
Excess disbursements over receipts		$ 61.83
Cash on hand Dec. 2, 1929		212.75
Cash on hand Dec. 2, 1930		150.92

Hugo Aach.

December 4, 1930

Dr. R. B. Fast, Secretary
Kalamazoo Academy of Medicine
408 Bank of Kalamazoo Building
Kalamazoo, Michigan

Dear Dr. Fast:

Your public health committee wishes to submit the following report:

Total number of children examined in	
Kalamazoo County	1,794
Portage Center	175
Gull Road	250
Comstock	525
Kellogg	213
Milwood	75
Richland	225
Drake	35
Comstock No. 5	40
Pre School Clinic	256

Clinics were held in each school assisted by the Parent Teacher Association. The Kalamazoo Dental Society also coöperated. Specialists examined the ears and throat of each child.

Some educational work was done in most of the schools by members of the Academy of Medicine. This was arranged for by the schools or referred to the Academy. I wish to express our appreciation to Mr. Drake for the coöperation of the nurses of the Kalamazoo Public Schools during the clinic.

Follow-up work has been carried on by the Tuberculosis Association, the Child Welfare League and the Red Cross. Great appreciation has been expressed for the services rendered.

Respectfully submitted,
Wilbur C. Medill
F. Elizabeth Barrett
John McGregor

JACKSON COUNTY

The November meeting of the Jackson County Medical Society was held at the Hayes Hotel, November 18, 1930. A steak dinner was served at 6:15, following which the meeting was called to order by President Cooley. The minutes of the previous regular meeting were approved as printed in The Bulletin. The minutes of the special meeting were corrected on the recommendation of Dr. Porter.

The applications of Drs. Leslie Jones and Dr. R. J. Hanna, having been approved by the Board of Directors, were unanimously approved by the Society for membership.

President Cooley appointed the following committees: December banquet committee, Drs. C. Corley, F. W. Rogers, R. G. Bird, and R. A. Weber. Medico-legal committee, Drs. G. R. Bullen, H. W. Porter, W. L. Finton, E. S. Peterson, and W. E. McGarvey.

In the absence of Dr. M. N. Stewart, President Cooley introduced Dr. Geo. McKean, of Detroit, as the speaker of the day. He chose as his subject "The Latest Treatment of Hypertension." Dr. McKean gave a wonderful talk on this subject, which was thoroughly enjoyed by every one present. There was considerable discussion and questions, with Dr. McKean closing.

Dr. Crowley, the treasurer, stated that there would be a surplus of about $200.00 in the treasury at the end of the year. He made a motion, which was seconded by Dr. Corley, that this surplus money be turned over to the December committee so that they might reduce the price of the tickets for the annual meeting. Motion carried.

President Cooley spoke a few words of welcome to our out-of-town guests, Drs. Fenten and Hamilton of Reading. No further business to come before the Society, the meeting adjourned.

Attendance fifty-six.

A pheasant dinner, which was to be served by Drs. Munro, Cooley, Newton and Hackett, failed to materialize. Several reasons have been given for this failure. It is said the game warden took them into tow for having too many pheasants. Somebody ought to send this to Riley.

WAYNE COUNTY

Dr. John B. Deaver of Philadelphia will appear on the program of the Wayne County Medical Society on January 6, 1931. At this same meeting, the Society will vote on delegates and alternates to represent it in the House of Delegates of the Michigan State Medical Society.

Dr. John L. Kantor of New York will appear January 13 on the subject "The Practical Significance of Digestive Tract Anomalies." On January 20, Dr. Arthur J. Camp, Director of the Bureau of Investigation of the American Medical Association, will give his interesting lecture entitled, "Patent Medicines and the Public Health." Professor T. B. Holloway of Pennsylvania will address the Society on January 27.

The four Detroit doctors who were introduced as witnesses by the Lowell (Massachusetts) Sun in the Dugdale vs. the Lowell Sun libel suit, will relate their experiences to the Wayne County Medical Society at the meeting, January 20. The doctors who were called to Lowell were Drs. Frank A. Kelly, James E. Davis, C. I. Owen and J. T. Watkins. Dr. Dugdale, whose license was cancelled by the State Board of Medical Registration, is said to have employed the Koch cancer remedy.

Dr. Howard Fox will be the speaker at the joint meeting of the Wayne County Medical Society and the Detroit Dermatological Society, February 3. His subject will be "Modern Trend of Skin Diseases."

A joint meeting of the Wayne County Medical Society and the Detroit Dental Society will be held on February 10th. It will be in the nature of a symposium by Detroit physicians and dentists.

The Wayne County Medical Society and its President, Dr. J. M. Robb, were instrumental in having a proposed radio ordinance defeated in the City of Detroit. This sought-for legislation would have prevented the use of electric vibrating equipment for X-ray machinery between the hours of *7:00 P. M. and midnight.* The Medical and Civic Relations Committee of the Society passed a resolution condemning this proposed ordinance as unnecessary and, being class legislation, as unjust and contrary to law. The Common Council of Detroit declined to take further action on this ordinance after receiving the Wayne County Medical Society's Resolution.

BAY COUNTY

The annual meeting of the society was held Wednesday evening December 10, 1930, at the home of the retiring president, Charles W. Ash, where the members were dinner guests of Dr. and Mrs. Ash.

The annual reports of the officers and committees showed the society to be in a flourishing condition.

The following officers were elected for the year 1931: President, Dr. F. S. Baird; vice president, Dr. M. R. Slattery; secretary-treasurer, Dr. L. Fernald Foster; censor, Dr. V. H. Dumond; Medico-Legal Committee, Dr. A. W. Herrick; delegate, Dr. Chas. W. Ash; alternate, Dr. H. P. Lawrence.

The society decided to change its meetings from the second and fourth Mondays of each month to the second and fourth Wednesdays.

It was also decided to consider the establishment of a Physicians' Exchange, whereby physicians could be located when away from their offices.

Fifty members attended the meeting, establishing a new high attendance record at an annual meeting.

L. Fernald Foster, *Secretary.*

GOGEBIC COUNTY

The following officers of the Gogebic County Medical Society, for the year 1931, were elected on Tuesday, December 9: President, Dr. W. E. Tew, Bessemer; vice president, Dr. C. E. Anderson, Bessemer; secretary-treasurer, Dr. F. G. H. Maloney, Ironwood; delegate, Dr. W. E. Tew, Bessemer; alternate, Dr. T. R. Rees; Defense League representative, Dr. D. Pierpont, Ironwood.

The following were elected as members of the Board of Directors: Dr. C. C. Urquhart, Ironwood; Dr. E. H. Madajesky, Ironwood; Dr. C. E. Stevens, Bessemer.

F. G. H. Maloney, M.D.,
Secretary.

BEAUMONT LECTURES IN FEBRUARY

The 1931 Beaumont lectures of the Wayne County Medical Society will be presented by Dr. James Ewing, Professor at Cornell University. The dates are February 23 and February 24, 1931.

Dr. Arthur D. Holmes of Detroit has presented the Wayne County Medical Golfing Association with a beautiful bronze statue of Hermes, mythological god of sports who carries the caduceus, the sign of medicine. This bronze work, about four feet high, will be the prize for the low gross championship of the Wayne County Medical Society.

The Maimonides Medical Society has given the Wayne County Medical Society a beautiful oil painting for its club rooms. The landscape is by Isaac Rader and was presented to the county society at the general meeting of December 16.

"A Moratorium on Doctors' Bills" was the subject of an editorial which appeared in one of Detroit's newspapers, on December 5. A resolution deprecating this editorial and requesting consideration and fair play, passed by the Council and by the membership of the Wayne County Medical Society on December 8th, resulted in the publication of a second editorial on December 13th entitled, "The Admonition Was Unnecessary." The editorial said

in part: "A policy of sympathetic helpfulness toward those hit simultaneously by hard times and illness was in effect among members of the Wayne County Medical Society long before the American Medical Editor' and Authors' Association spoke; which really ought not to be news to people who know how seriously all physicians take their social and humanitarian obligations toward their fellow men."

The medical profession of Wayne County has always been cognizant of the fact that Detroit newspapers have tried to be eminently fair and full of encouragement for the altruistic efforts of physicians and surgeons, and the action in the above matter has been further proof of their attitude.

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, President, Jackson, Mich.
MRS. J. EARL McINTYRE, Secretary, Lansing, Mich.

MEMBERS OF THE STATE MEDICAL SOCIETY

Dear Doctors:

After reading your Journal will you please take it home and call your wife's attention to the Auxiliary page? All personal items or news of interest will be greatly appreciated and if sent in by the 25th of each month, will be published in the journal the following month.

You will notice that our officers list is now complete:

President: Mrs. Lester J. Harris, 607 Washington Ave., Jackson.

Vice President: Mrs. J. Earl McIntyre, 600 South Grant Ave., Lansing.

Secretary-Treasurer: Mrs. W. L. Finton, 1502 Carlton Boulevard, Jackson.

Executive Board Publicity Chairman: Mrs. P. R. Urmston, 1862 McKinley Bay City.

Organizing Chairman: Mrs. Guy L. Kiefer, 908 Virginia Park, Detroit.

Hygeia Chairman: Mrs. Henry Bartlett, 1510 Lake Shore Drive, St. Joseph.

Mrs. A. W. Crane, 1425 Hillcroft, Kalamazoo.

Mrs. E. L. Peterson, 506 S. Jackson St., Jackson.

Mrs. Harris attended the National Board meeting in Chicago last week, which was held at the Pearson Hotel the 14th of November. Eleven state presidents attended from widely separated parts of the country; California, New Jersey, Tennessee and Minnesota being among those represented. Most of the officers were present, as well as the directors. Mrs. Mundt was also present. She was invited to be in Kalamazoo in December. Routine business was transacted, reports from officers and various committees given. Mrs. Walter Freeman (Philadelphia) wants particularly to have every Publicity chairman to send monthly reports to her for publication in the A. N. A. Journal before the 25th of each month. They are complaining about a lack of material and we can help out by sending our reports.

Mrs. Walter Freeman, who is also chairman of the convention to be held in Philadelphia in June, submitted their plan of entertainment for the Auxiliary; special features being a trip to Valley Forge and to Atlantic City, besides visits and teas in various historic spots in the delightfully interesting city.

The sudden death of Mrs. Leonora Marsh McLean, mother of Dr. James M. McLean, came as a great shock to Auxiliary members of Bay County.

Louise T. Urmston,
Editor of Woman's Auxiliary.

WOMAN'S AUXILIARY—BAY COUNTY

A pot-luck dinner at the home of Mrs. M. R. Slattery, Bay City, was enjoyed by sixteen members of the Woman's Auxiliary of the Bay County Medical Society October 26, 1930.

Mrs. P. R. Urmston, president of the group, presided at the meeting, which followed dinner. Mrs. Urmston gave an interesting account of the state convention which she attended in Benton Harbor in September and described the House of David, through which delegates were conducted during the convention.

The next meeting of the organization is scheduled for December. This will be the annual session and new officers will be elected. Mrs. L. Fernald Foster is now secretary of the auxiliary and Mrs. Slattery is treasurer.

WOMAN'S AUXILIARY—INGHAM COUNTY

Covers were laid for forty-three guests at the 1 o'clock luncheon of the Woman's Auxiliary to the Medical Society of Ingham County held at the Country Club of Lansing, in October.

The luncheon was served in the main dining room of the club, and asters, cosmos, and snapdragons were used at the table, which was lighted by tall tapers in pastel shades. Handpainted place cards marked the places. Mrs. J. Earl McIntyre, retiring state secretary, gave a report of the state meeting held at Benton Harbor September 16, 17, 18, following the luncheon.

Mrs. L. J. Harris of Jackson was named president of the state association, and Mrs. McIntyre, vice president. Mrs. Henry Mundt, state organizer of Illinois, was principal speaker at the state meeting.

A short business meeting followed the luncheon, at which it was decided that a welfare committee would be appointed by the executive board to plan charity work of the organization for the coming year. The executive board includes Mrs. Charles P. Doyle, president, Mrs. A. M. Campbell, Mrs. William E. McNamara, Mrs. M. L. Holm, Mrs. C. B. Gardner, Mrs. T. P. VanderZalm, and Mrs. L. C. Hart.

Mrs. McNamara, assisted by the entertainment committee, was in charge of arrangements for the luncheon.

COMMUNICATIONS

(Continued from Page 48)

Detroit, Michigan
November 10, 1930

Dr. F. C. Warnshuis,
1508 G. R. National Bank Bddg.,
Grand Rapids, Mich.
Dear Dr. Warnshuis:

Your letter notifying me of my appointment on the Committee of Civic and Industrial Relations was received some time ago. I assure you that it was a great pleasure to me to receive this appointment and that I will endeavor to be an active member on the Committee.

Respectfully yours,
L. O. GEIB.

Detroit, Michigan.
November 29, 1930.

Dr. F. C. Warnshuis,
1508 Grand Rapids National Bank Bldg.,
Grand Rapids, Michigan.
My dear Doctor:

In reply to your letter of November 11, may I first apologize for not answering sooner, but I have just returned from a trip through the South and find your letter waiting.

It is with pleasure that I accept this appointment which you tender me, as representative of the Michigan State Society upon the Medical Advisory Committee of the Michigan Tuberculosis Association.

Very truly yours,
WILLIAM A. HUDSON, M.D.

Dec. 19, 1930.

F. C. Warnshuis, M.D.,
Grand Rapids, Mich.
Dear Doctor:

I want to thank you for writing about the Journal. Many thanks for sending it so long, but Dr. Wasson doesn't read much, it tires him too much. His mind is weaker than his body.

I wish I could express my appreciation to the Eaton County Medical Society for their kindness to Dr. Wasson since he has been unable to work among them, and also the State Medical Society for electing him an honorary member. Doctor was quite moved when I read him your letter. I thank you for him.

Sincerely,
MRS. C. B. WASSON.

"The secret of happiness," says Bertrand Russell, is this: "let your interests be as wide as possible and your reactions to the things and persons that interest you be as far as possible friendly rather than hostile."

THE DOCTOR'S LIBRARY

A PRIMER FOR DIABETIC PATIENTS. Russell M. Wilder, M.D., Professor and Chairman of the Department of Medicine, University of Chicago; formerly Head of the Section on Nutrition, Division of Medicine, Mayo Clinic. Fourth Edition, Revised. 138 pages. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, $1.50.

This little work is intended as a guide to the patient and his physician. The best results in the management of diabetes are to be had only when the physician has the intelligent coöperation of his patient, and intelligent coöperation is possible only when the patient possesses certain knowledge of his condition. There is no attempt to render the patient independent, for, as the author says, "No patient with a disease as serious as diabetes should be encouraged to attempt self treatment." Such works as this should save a lot of explaining on the part of the doctor with the possibility of misinterpretation.

TEXT-BOOK OF MEDICINE. Edited by Russell L. Cecil, A.B., M.D., Sc.D., Assistant Professor of Clinical Medicine in Cornell University; Assistant Visiting Physician in Bellevue Hospital, New York City. And Associate Editor for Diseases of the Nervous System, Foster Kennedy, M.D., F.R.S.E., Professor of Neurology in Cornell University; Head of Neurological Department, Bellevue Hospital. Second Edition, Revised and Entirely Reset. 1,592 Pages. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, $9.00.

A textbook such as this has as one of its merits the fact that each subject has been written up by a clinician chosen because he has made a special study of and has given particular attention to that subject. The field of internal medicine has become so broad that mastery of only a portion of it is possible. It is only four years since the first edition of Cecil's Textbook on Medicine appeared, the work of one hundred and thirty contributors, and yet in this space of time the advances in medicine have been so great as to necessitate a complete revision of the work. A list of the contributors includes a great many of the best known clinicians in the United States; most of them are teachers of medicine in university medical colleges. This fact is evidence that the work is pre-eminently a textbook. While this book contains over 1,500 pages it is not cumbersome. It will be found a convenient manual for the general practitioner as well as the internist.

LEGAL MEDICINE AND TOXICOLOGY. Ralph W. Webster, M.D., Ph.D., Late Clinical Professor of Medicine (Medical Jurisprudence) in Rush Medical College, University of Chicago, Chicago, Ill. 862 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, $8.50.

A work on Legal Medicine and Toxicology should be in every medical library. From the nature of the subject such works are not subject to frequent revision. They do not require to be replaced every few years by more up-to-date editions. Of this work 317 pages are devoted to legal medicine and over 500 to toxicology. The legal portion of it deals with the results of what might be designated crime and death from causes that may not be evident. One of the most useful sections is that dealing with the legal rights and obligations of physicians, as well as the section on the expert witness, his privileges and limitations. The author says in his preface that he has not attempted to include in the book all the subjects with which legal medicine may be concerned. It seems unfortunate in view of the increase in a number of cases which come under the category of personal injury that he did not include a chapter on the use of the X-rays in medico-legal cases. The coroners of some of our large cities have found

it feasible to install X-ray equipment as an aid in post-mortem examinations. Probably no other method of examination is so satisfactory in those personal injury cases arising out of accident which come before the circuit court or industrial courts as the X-ray examination. Apart from this omission this work on Legal Medicine and Toxicology will be found to cover the subject very thoroughly.

THE AMERICAN LEVIATHAN, THE REPUBLIC IN THE MACHINE AGE. Charles A. Beard and William Beard. 824 pages; 30 illustrations. Price, $5.00. The Macmillan Company, New York.

This volume according to the author is the result of an endeavor to unite politics, government and technology as reflected in the government of the United States. While it is not in any sense a medical work the reviewer offers no apology for describing it in this department. It should have a universal appeal to physicians as citizens. We hear a great deal spoken about the constitution these days and of amendments to that document. The author has taken his title from what he calls the greatest political work of all times, The Leviathan of Thomas Hobbes. Charles Beard, one of the co-authors of The American Leviathan, is well known as co-author of a monumental work, The American Civilization, which appeared a few years ago and which has achieved a wide popularity among the historically minded. The present work, which opens with a splendid analysis of the constitution of United States, will be a surprise to a great many readers who have been accustomed to attribute things to the constitution which are not to be found there. The volume gives a good idea of the work performed by the United States Government in keeping with the general expansion in technology for which this country has been noted. Probably at no other time in history is a knowledge of the operations of our government so important to the citizen who would be well informed, and we might add we know of no other work on the subject so interesting and so informative.

TREATMENT OF MALARIA

C. C. Bass, New Orleans summarizes his views as follows: Cinchona alkaloids, especially quinine, constitute the only specific remedy for malaria. Arsphenamine, neoarsphenamine and acetarsone have some nonspecific effect, as do many other drugs, but such effects are so far inferior to that of quinine that their use is on the decline. Plasmochin has a definite effect on clinical malaria and both clinical and parasitic cures may be accomplished with it alone. Plasmochin has far less effect on malaria than has quinine, and its toxicity, which is associated with methemoglobinemia, makes its routine use questionable. Evidence has been brought forth that plasmochin has some specific action on the reproductive power of gametes. These observations, Bass says, are of great importance, if correct, and need further confirmation.—*Journal A. M. A.*

LITTLE REDUCTION IN COST OF MEDICAL CARE LIKELY

The costs of medical care are not likely to be greatly reduced in the future, although some economies may be effected, Dr. Ernest E. Irons, dean of Rush Medical College, Chicago, said at the Detroit meeting of the American Medical Association. These high costs are so closely interwoven with general economic conditions that they cannot be reduced under present standards of living and price levels, Dr. Irons said. They are the result of several factors such as increased costs of all necessities, including groceries and clothes, increasingly expensive tastes and requirements of persons who are sick and increased medical costs inevitable by reason of the advance in medical knowledge and methods. This increase of patients' tastes for expensive service was stressed by Dr. Irons as a big factor in the increased cost of medical care. Hospital costs have increased, but so have hospital expenses, he said. Many sick persons could be cared for adequately in small wards with hospital nursing service, but they insist on private rooms and special nurses. Laboratory methods of diagnosis and treatment have also added to the cost of medical care since their development during the last thirty years. When properly used these are of enormous value and well worth their cost, Dr. Irons said.

Specialism has also contributed to the increased cost, but it is estimated that not more than 20 per cent of all sick persons really require the services of specialists. Regret for the alleged passing of the old family doctor who drove about among his families in a buggy is largely wasted, Dr. Irons said. In any community an even finer type of family adviser can be found today. Likewise the movement of families from one apartment to another and from one section of a city to another is a big reason for the disappearance of the family doctor, a cause brought about by the families themselves and not by their physicians, Dr. Irons pointed out.—Science Service.

The opening meeting of the Detroit Roentgen Ray and Radium Society for the year 1930-1931 was held the evening of October 16 at the Henry Ford Hospital. The address of the evening was delivered by Dr. H. K. Pancoast of Philadelphia on the "Roentgen Examination of the Upper Respiratory Tract."

POSSIBLE EXPLANATION FOR HORSE SERUM ANAPHYLAXIS IN MAN

Bret Ratner, New York, emphasizes the fact that an anaphylactic relationship exists between horse dander and its homologous serum. The common substance present is resident in the globulin fraction of the respective antigens. Guinea-pigs sensitized to horse dander can be shocked with horse serum. The reverse sequence can be accomplished but rarely and only when large doses are used. This relationship has been demonstrated by parenteral injection and by the uterine strip method. This relationship has been further demonstrated by the inhalation method which most closely simulates the situation to which the human being is subject. Animals naturally sensitized through the inhalation of horse dander died in anaphylactic shock or showed grave anaphylactic symptoms on receiving a first injection, intravenously, of horse serum or diphtheria antitoxin. Clinical cases have been presented to show that anaphylactic death and accelerated anaphylactic reactions following the primary injection of horse serum or horse serum antitoxin occur in those individuals spontaneously hypersensitive to horse dander. Human beings may be artificially sensitized by large injections of horse serum. Such individuals are less susceptible than the spontaneously sensitized person with horse asthma. It is improbable that toxin-antitoxin can artificially sensitize an individual to horse serum. Only such individuals as are shown to be sensitive to both horse dander and horse serum should be regarded as risks for the primary administration of horse serum. If it should be imperative to administer horse serum for therapeutic purposes, the greatest precautions should be observed to give the serum exceedingly slowly and by the routes of least absorption, coupled with the utilization of such drugs as epinephrine and atropine.—Journal A. M. A.

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CONTENTS

The Gonin Operation for Detachment of the Retina. Walter R. Parker, B.S., M.D. 61
Thyroidism with Unusual Clinical Manifestations. Max Ballin, M.D. 64
Further Studies in the Use of Iodized Oil (Lipiodol) in the Diagnosis of Maxillary Sinus Disease with a Report of Two Hundred and Twenty-Five Cases. E. L. Whitney, M.D., and H. P. Doub, M.D. 72
Intestinal Anomaly Revealed by Emergency Operation Following Motor Accident. Ira Dean McCoy, M.D. 77
A Note on Blood Transfusion, with an Account of a Fatal Reaction. F. J. Barkman, M.D. 83
Undulant Fever. W. M. Le Fevre, M.D. 87
Puerperal Inversion of the Uterus. La Mott F. Bates, M.D. 88
Bacteriophage Treatment of Staphylococcus Infections. N. W. Larkum, Ph.D., and Helen Pratt, M.D. 90
Urogenital Tuberculosis. A Modified Vernes Test as an Aid in Diagnosis. George Sewell, M.D. 92
Intravenous Sodium Amytal, with Report of a Death. Philip D. Amadon, M.D. 96
Michigan's Department of Health. C. C. Slemons, M.D. 97
Famous Men in Medical History: Walter Reed. Frank Maxwell, M.D. 100
Of General Medical and Surgical Interest 106
Editorials:
Post-graduate Courses in Medicine 107
Volume II of the Medical History of Michigan 107
Child Welfare Conference 108
Automobile Accidents a Liability to Medicine 108
If— 109
Is State Medicine a Solution? 109
Bargains in Living Flesh, et al 112
The Beaumont Lectures 112
Deaths 113
General News and Announcements 114
Society Activity 115
County Societies 116
Woman's Auxiliary 118
The Doctor's Library 120

THE GONIN OPERATION FOR DETACHMENT OF THE RETINA*

WALTER R. PARKER, B.S., M.D.†
DETROIT, MICHIGAN

Professor Gonin electrified the International Congress of Ophthalmology, held at Amsterdam in 1929, by his report of the results obtained in cases of detachment of the retina treated by ignipuncture. The report was based on one hundred cases that were classified as shown in Table I. In this report 73 per cent of the cases in the first group were recorded as cured, 48 per cent in the second, and 30 per cent in the third.

Gonin holds that the tear in the retina precedes the detachment and that it plays an essential role in the etiology and treatment of this condition. The operation has for its purpose the searing of the edges of the tear in the retina in order to facilitate its reattachment.

Since the searing of the edges of the tear in the retina is held to be essential for a successful outcome of the operation, the definite location of the tear and its relation to the point of scleral puncture are the most important details of the operative procedure.

The suitable cases for operation are those in which the detachments are recent in origin, ten to twenty-one days, not too extensive, and with a demonstrable tear in the

*Presented before the section on Ophthalmology at the 110th Annual Meeting of the Michigan State Medical Society at Benton Harbor, Sept. 16, 1930.

†Dr. Parker is Professor and Chief of the Department of Ophthalmology at the University of Michigan Medical School.

retina located at an accessible portion of the eyeball. Those cases that present one or two tears of relatively small size, located near the ora serrata, offer the best chances for success. The smaller the hole, the less the number of tears, and the nearer they are to the ora, the better are the results following ignipuncture.

TABLE I

Group I.	Less than three weeks' duration.....		34
	Not suited for operation	4	
	Operated	30	
	Cured	22 = 76%	
	Not improved	8	
	Single ignipuncture	16	
Group II.	Less than three months' duration.....		35
	Not suited for operation	4	
	Operated	31	
	Cured	15 = 48%	
	Not improved	16	
	Single ignipuncture	5	
Group III.	More than three months' duration.....		31
	Not suited for operation	11	
	Operated	20	
	Complete anatomical cure with more or less imperfect restoration of vision	6 = 30%	
	Not improved	14	
			100

The method of locating a point on the sclera that corresponds to the location of the tear in the retina is somewhat complicated by the fact that one estimates the distance of the rent from the disc in disc diameters, while the corresponding point on the sclera is calculated in millimeters from the posterior pole or from the limbus. The estimation of the location of the tear from the disc, in disc diameters, must be corrected for the particular meridian by adding or subtracting the distance of the macula from the disc. In the horizontal meridian the distance from the disc to the macula is about 3.5 mm. and the diameter of the disc is 1:5 mm. If the situation of the tear is estimated in disc diameters from the macula, of course no correction is necessary. A chart is reproduced from Schoenberg's article, indicating the various landmarks and points to be avoided (Fig. 1).

After the location of the rent, made with the pupil widely dilated, Gonin marks two opposite points on the limbus in the meridian in which the tear is situated, and passes a thread through the conjunctiva near the limbus opposite these two points. An incision is then made in the conjunctiva, parallel to the limbus, slightly anterior to the estimated point of puncture in the sclera. The conjunctiva is retracted, and the thread passed over the denuded sclera in a prolongation of a line indicated by the marks at the limbus, and the calculated distance of

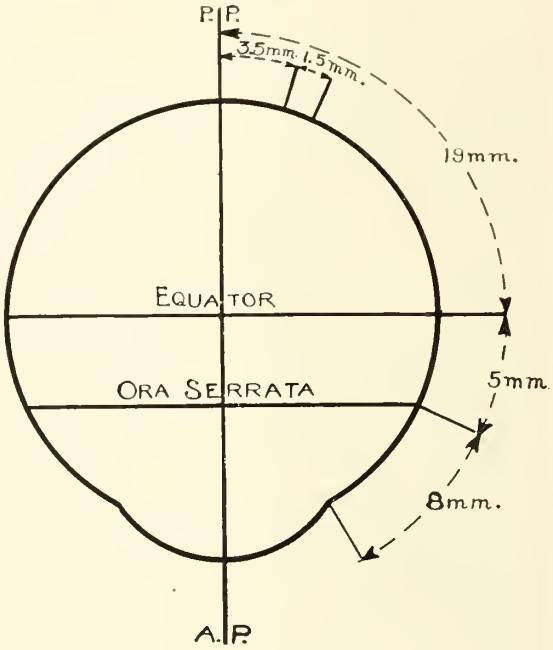

Fig. 1.

the scleral puncture from the limbus is accurately measured with a pair of calipers and the point marked with India ink. The thread can be more accurately held in line by the use of a retractor that has three perforations near its edge. The thread may be passed through the hole, that, after the retractor is in position, will prolong a line through the two points located at the limbus.

The location of the puncture can be facilitated by consulting the chart (Fig. 1) and noting that one-quarter of the circumference of the eyeball is 19 mm.; the ora serrata is 8 mm. from the limbus and the distance between the ora and equator 5 mm. If, for instance, the tear is located 16 mm. from the posterior pole, it would be 3 mm. back of the equator and 16 mm. back of the limbus.

The operation is performed under local anesthesia and with a widely dilated pupil. The sclera is incised with a Graefe knife, which is turned in the aperture to allow the escape of subretinal fluid. As soon as the free drainage ceases the knife is withdrawn and the tip of a Paquelin cautery at red heat is introduced through the puncture for a

distance of two or three millimeters and allowed to remain in position two or three seconds, then rapidly withdrawn. The conjunctival wound is closed, atropin instilled and the eye bandaged. The patient is kept in bed for about one week, if possible in such a position that gravity will facilitate replacement of the retina.

Gonin states that good results can not be expected if all the retinal rents are not included in the cauterized retinal areas. If the edges of the tear have been cauterized, there results a rounded or white atrophic area surrounded by pigment. There must be as many ignipunctures as there are tears in the retina.

The results from this operation have not been as brilliant in this country as were those reported by Gonin. Schoenberg, Archives of Ophthalmology, June, 1930, reports the results in ten cases. The first four were not suitable for any functional results; in two no tears were visible, and four cases were classified as successful. Gradle, in the American Journal of Ophthalmology for April, 1930, reports five operations on three patients. In his own words the results are as follows:

"I have performed the operation five times upon three patients. The first case was one of bilateral detachment that had been present for many months, and consequently only an anatomical result could be expected. But that was obtained, complicated, however, by dense vitreous opacities that appeared after the operation.

"In the second case, the detachment had been present for nearly two months and two retinal rents could be seen. Two ignipunctures were performed, and in each case the edges of the rent were included in the cauterization scar. But the detachment progressed and became as complete as though the very last word in surgical procedure had not been tried.

"In the third case, the detachment was only ten days old and a rent could be seen in the extreme periphery. An ignipuncture was performed and luckily the cauterization was accurately localized. There followed a re-attachment in the sector in which the operation was done, but the lower part of the retina remained detached and the detachment increased rapidly, despite bed rest. Ten days later another ignipuncture was done, after localization of another rent. This time the area was not struck so accurately and, although the retina became adherent to the sclera at the site of the cauterization, the rent remained open. This operation was followed by the appearance of rather dense vitreous floaters, and now, about six weeks later, the detachment is floating about as merrily as though it had never been disturbed."

I have performed the operation five times. Only two of the five cases were suitable for any operative procedure—one of nine and one of ten weeks' duration. The other three were of long standing—from two to eight years—with organized bands in vitreous and retina. One had three holes in the retina and only one was cauterized. The edges of the tears were seared in three cases and only partially included in the cauterized area in two. In each of these cases, in which the whole tear was not included in the cauterized area, the opening in the sclera was made too far back. In one case a hemorrhage into the vitreous followed the operation. Otherwise there were no serious complications.

In the favorable cases the re-attachment was not complete in either case, although the edges of the tears were cauterized. The fields were somewhat enlarged and the vision in each case improved from moving objects to counting fingers. All the cases here reported would, therefore, have to be classified as failures.

As the majority of the tears in the retina occur between the ora and the equator, it is important to know just how far forward a tear can be seen. There is some difference of opinion in regard to this point, some holding that one can inspect the retina to the ora, while others, and I am inclined to agree with them, hold that a point between the equator and the ora indicates the anterior limit of our observation with the ophthalmoscope. In my own cases, limited to five, the tear was included in the puncture in three cases, and in two I was a little too far back and included only the posterior border.

The results if ignipuncture in cases of detachment of the retina have been so encouraging in the experience of several European surgeons that I shall continue its use until convinced of my ability or inability to obtain satisfactory results.

DISCUSSION

Dr. Robert G. Laird (Grand Rapids, Mich.): I think we are very deeply indebted to Dr. Parker for his explanation of the Gonin method, because it is much discussed these days. When a surgeon devises a new method, in his enthusiasm he usually claims more for it than other surgeons find justifiable. For that reason Dr. Parker is to be thanked for explaining which cases are and which are not suitable. From a study of the literature I find there is no place in which he has deviated from the universally accepted theories. Sinclair has proved on rabbits' eyes that all retinal detachments are not from retinal tears. I have had no experience whatsoever with the Gonin method. When in the hands of a skilled surgeon five cases are unsuccessful, less skilled surgeons should not adopt this method until better results are generally obtained.

Dr. Howell L. Begle (Detroit): Even if one has had considerable experience with detachment of the retina and is impressed with the poor results

of our operative procedures of the past, he must hesitate to question the good results reported from this new method of cauterization of the retinal tear which Dr. Parker has so well described. The favorable reports from several European clinics and the general interest aroused in Gonin's procedure is very impressive, and should encourage each one of us to try out the operation and thus add to our knowledge of the subject. Personally, I feel that much study is needed before all the causes of detachment of the retina are understood and evaluated. I have used Gonin's procedure in only one case of detachment of the retina. The detachment resulted from trauma. A workman had suffered a perforating wound of the sclera with some loss of vitreous. A perforating foreign body had struck the retina apparently, and lodged close to it in the vitreous. A shallow detachment of the retina was observed two days after the accident and before the foreign body was removed. The sclera was incised back of the detachment and the foreign body easily obtained with a magnet. It was thought that the incision might favor re-attachment, but instead the detachment gradually increased. The scleral wound was therefore reopened and an electric cautery point introduced through its wound. Considerable hemorrhage into the vitreous followed this procedure. The blood apparently come from a large retinal vessel, which had been observed with the ophthalmoscope to lie close to the scleral wound. Vision has decreased since the operation. The retina is still detached. Visual acuity is about 20/200. I hesitate to operate further on this patient and to possibly destroy what vision remains. In traumatic detachment of the retina progress may be very slow and useful vision may be retained for a considerable period.

THYROIDISM WITH UNUSUAL CLINICAL MANIFESTATIONS*

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In all morbid conditions a diagnosis is readily made, if all the principal symptoms are present. When a pathological entity is first recognized as such, usually certain cardinal symptoms are described and required for the diagnosis. Later on it becomes evident that such entities can exist without all these principal symptoms being fully established. Again, one or the other of the symptoms may be so outstanding, and the other symptoms minimized or even absent, so that the diagnosis may be overlooked. This fact has recurred so often in medicine that it would be impossible to recall all such happenings, although a historical review of pathological development would be most entertaining and instructive, especially to younger colleagues who have not lived through the long period necessary for the growth of a new pathological entity.

A few instances may suffice to illustrate this point. In gallbladder disease symptoms of colic, jaundice, and vomiting were first considered necessary for the diagnosis of gallstones. We now know that not all of these symptoms, not even one, need to be present. The patient may have gallstones expressed only by indigestion. An inflamed appendix must be diagnosed at times without the cardinal symptoms, pain in the appendiceal region, fever, leukocytosis, and rigidity being absent, and the patient may have only a backache or irritation of the bladder caused by the inflamed appendix being located retrocecally or attached towards the bladder.

Modern brain surgery could not exist if we waited for the whole complex of symptoms, vomiting, headaches, failing vision, etc., before diagnosing brain tumors. The same is true in cord tumors where backache or a neuralgic condition occupies the field of symptoms entirely, sometimes for months and even years before the whole symptom complex develops.

In goiters, we are now passing through the same stage of broadening knowledge. This whole chapter has been developed within the life span of surgeons who have practiced now about twenty-five to thirty years. The diagnosis of toxic goiter is usually based on the presence of a visible or palpable goiter, pressure symptoms, such as dyspnea, toxic symptoms, eye signs, tachycardia, tremor, nervousness and an increased basal metabolic rate.

Our discussion shall refer to the following points:

1. Formes frustes of goiter with only one or two of the cardinal thyroid symptoms present.
2. One symptom may be so outstanding that it obscures the diagnosis.
3. A small, not visible or palpable, goiter may cause thyroidism.
4. The basal metabolism reading is only

*Read before the meeting of the Michigan State Medical Society at Benton Harbor, Michigan, September 16, 1930.

†Dr. Max Ballin was educated at the Universities of Freidburg, Munich, and Berlin, Germany, where he obtained the degree of M.D. from the University of Berlin in 1892. He has been head of the Department of Surgery of Harper Hospital since 1916.

one symptom, quite important, but not deciding the diagnosis.

5. Interlocking disturbances of several endocrine glands may still more complicate the diagnosis.

The following symptoms may be caused by a goiter without the main symptoms being present or outstanding:

1. Intestinal symptoms,
2. Glycosuria,
3. Cardiac symptoms, high blood pressure, tachycardia, decompensation, dyspnea, edema,
4. Arthritis,
5. Asthma and cough, dysphagia,
6. Vertigo, epilepsy, mental depressive conditions,
7. Disturbances in calcium metabolism.

GOITER WITH INTESTINAL SYMPTOMS

The great French physician, Marie, the pioneer in goiter surgery, Kocher, our Billings of Chicago (Chicago Medical Association, December 12, 1906) referred to the frequency of intestinal symptoms with goiter. For a paper on "Thyroidism as a Causative Factor of Intestinal Disturbances" (Detroit Medical Journal, August, 1910), which was read before the American Gastro-enterological Association in St. Louis in 1910, we tabulated one hundred fifty-nine cases, of which nine had diarrhea, others had vomiting, slight jaundice, mucous colitis, etc. Our experience with this combination has been so multiplied since, that now in the case of mild intestinal symptoms complicating goiter we advise that the goiter be removed before a doubtful appendix is operated or a patient subjected to long-standing medical treatment of indigestion without any radiographic findings of actual pathology; and it is surprising how frequently such intestinal symptoms disappear after thyroidectomy. The severe gastric symptoms occurring with diarrhea during crises in exophthalmic goiter are well known, but milder symptoms are very frefrequent. Kocher stated that forty out of eighty cases of goiter had intestinal symptoms. Billings' figure was twelve out of sixty-one cases.

Drs. Freund and Cooksey report five cases in which the patients were treated for years for intestinal symptoms (nausea, vomiting, weakness, loss of appetite, diarrhea, regurgitation of food, loss of weight), which went under the diagnosis of gastric ulcer, gastric neurosis and mucous colitis. Their goiters were so small that they were scarcely noticeable, but all medical care, rest in bed, dieting, etc., gave no results until the goiter was recognized as the cause of the trouble. In their communication it is especially interesting that these goiters were so small that they were hardly detectable as such. This should stress the point that microscopic changes in the thyroid gland are sufficient to produce thyroidism and an actual increase in the size of the gland is hardly necessary. In looking over these intestinal symptoms it is furthermore interesting to note how frequently the diagnosis mucous colitis is made instead of thyroidism. Mucous colitis is also frequently diagnosed as a substitute for gallstones and appendicitis. It is more pleasant for a patient to hear, but should really be demoted to a symptom and not regarded as an entity. We may have an ulcerative colitis of distinct origin, but the production of mucus and the irritation of the colon alone are just symptoms of many conditions irritating the colon (even physics may cause it). Again, if a goiter is present with intestinal symptoms, the goiter should be considered as the etiological factor unless strong evidence such as X-ray findings of ulcer, gallstones, etc., prove that we have an actual intestinal affection.*

GOITER WITH GLYCOSURIA

The observation that certain glycosurias are at times more dependent upon disturbances in the thyroid than upon pathology in the pancreas has been brought out by many clinicians. Lahey and Joslin, Pemberton of the Mayo Clinic, Jacob Mayer and John of Crile's Clinic have also brought out these facts. At times glycosuria in severe exophthalmic goiter is a symptom of great gravity indicating severe metabolic disturbances. In other cases, however, the glycosuria seems to be of lesser importance and we have now observed many patients who lost their glycosuria after thyroidectomy, sugar never having been found four and five years since operation. These observations should mean that glycosuria in combination with goiter should not be a contra-indication to operating; on the contrary, the sugar tolerance will be increased after operation. The only cases where sugar in the urine is a symptom

*After reading this paper an article by Gilman and Kay of the Stanford University appeared referring a good deal to the same points we made. The significant title reads: "Remote Symptoms of Unrecognized Thyroid Adenomata, with Low Basal Metabolic Rate Relieved by Operation." Amer. Jour. of Med. Sc., CLXXXI, No. 3, September, 1930.

of grave importance in goiter are those where it appears with other most violent signs during a thyroid crisis.

GOITER WITH CARDIAC SYMPTOMS

In recent years quite a few physicians (I say physicians in opposition to surgeons in this instance) have written on the subject of heart disease caused by hyperthyroidism. I just mention titles of such work:

Levine, S. A., and Sturgis, C. C., "Hyperthyroidism Masked as Heart Disease."

Boas, E. P., and Shapiro, Shepard, "Diastolic Hypertension with Increased Basal Metabolic Rate."

Hamburger, Walter W., and Lev, Morris W., "Masked Hyperthyroidism."

Freund, H. A., and Cooksey, W. B., "Thyrotoxicosis in Elderly Persons without Signs of Goiter."

Lev, Morris W., and Hamburger, Walter W., "Association of Angina Pectoris and Hyperthyroidism."

Levine, S. A., and Walker, G. S., "Further Observations on Latent Hyperthyroidism Masked as Heart Disease: Angina Pectoris."

It is quite a satisfaction to surgeons that these facts, as indicated in these different titles, are now recognized by medical men after surgeons, especially Lahey, have stressed their existence for a long time. A long-standing toxic adenoma or a long-standing exophthalmic goiter may lead to total cardiac decompensation with edemas, ascites, pleural exudates, engorged liver, dyspnea incapacitating the patient entirely. The cardiac decompensation is so prominent that the original goiter is overlooked. Lahey, in his many lectures on this topic, always brings out that such a patient exists in every town and a good many in hospitals, without the thyroid receiving the attention it should deserve. It is quite characteristic in this type of cardiac decompensation that digitalis, quinindine, rest in bed, etc., will not have the same beneficial influence as in real primary cardiac decompensation, but as soon as the goiter is removed, digitalis and quinidine will act, the edema will disappear, the dilated heart will contract and the patient who has been an invalid for years may go back to work. We have more than ten cases on our records of patients coming to the hospital with ascites and immense edema of the legs and scrotum who have been returned to active life by removal of their goiters. These cases of total decompensation were rather unwelcome to the surgeon; the mortality rate was first given as forty per cent, but has gone down, under proper observation of modern rules for such thyroidectomies, to four per cent.

An actual congenital or acquired infectious heart lesion may be complicated by a toxic goiter. Also in these cases an exclusion of the existing thyroid element by thyroidectomy is strictly indicated. It is remarkable that the goiters in these cases are sometimes so small that they can hardly be seen or palpated and still they are the causative factor of the cardiac disturbance. Hamburger and his co-workers at the Michael Reese Hospital in Chicago have paid special attention to the goiter heart. They conclude that there is a masked thyroidism that goes under the picture of organic heart disease, angina, etc., for years. The diagnosis of thyroidism in such cases should be made if symptoms of hot feeling of the skin, flushed skin, pigmentation of skin, unexplained loss of weight, staring eyes, increase in metabolism and temporary improvement on the administration of Lugol's solution are present. Lastly, the cure by thyroidectomy will be a pleasant confirmation of the diagnosis. Hamburger also mentions that the goiter does not have to be a large one, that histological and microscopical changes in the gland are sufficient to cause the symptoms. He considers the diagnosis of this group a very important one, as they can be cured by thyroidectomy and are not amenable to any other care. Tucker of the Cleveland Clinic also reported three cases of hyperthyroidism without visible or palpable goiter causing cardiac symptoms. In our experience the main reason that goiters are kept in medical departments as cardiacs is the finding of a mitral murmur leading to the diagnosis of mitral stenosis and electrocardiograph reports of serious myocardial damage. That both findings are due to goiter is overlooked and the patient is carried on as a case of heart disease.

GOITER AND ARTHRITIS

In 1922, we published an article on "The Simultaneous Occurrence of Tumors in the Thyroid, Uterus and Breast."* In gathering statistics for this article it became evident that the association of goiter with arthritis was far above the percentage of arthritis

*The Simultaneous Occurrence of Tumors in the Thyroid, Uterus and Breast. Max Ballin and R. C. Moehlig, Jour. A. M. A. 1922, Vol. 79, pp. 1243-1254.

usually found in patients without goiter. In 1920 I reported the association of goiter and arthritis before the Detroit Academy of Medicine.

Duncan, W. S. (The Relationship of Hyperthyroidism to Joint Conditions, Jour. A. M. A., 91, December 8th, pages 1779-1783, 1928), has recently called attention to an association between hyperthyroidism and arthritis. His patients had basal metabolic rates ranging from plus 22 per cent to plus 88 per cent. We are able to confirm his experiences but also call attention to another phase of this problem. While Duncan's cases were all of the hyperthyroid type, we encountered the combination of goiter and arthritis also in cases of normal and subnormal basal metabolic rates. Also in this type, the results of thyroidectomy have been as good as those obtained by Duncan in his hyperthyroid cases. Enough time has elapsed for us to state that the results are permanent. Our usual advice given in these cases of arthritis with normal or subnormal basal metabolic rates, was that the removal of the goiter "might" benefit the arthritis without promising results. We have not had any great success with the administration of thyroid extract in combating such arthritis. A short record of the result of thyroidectomy in such arthritis is as follows:

Miss C. C., age 40, nurse. Seen on August 20, 1926, had arthritis for years. The main symptoms present were a large adenomatous goiter, polyarthritis, swelling of interphalangeal joints. The tonsils, some teeth, and appendix had been removed as possible foci of infection but no improvement followed. Patient could hardly earn her living as a nurse because of arthritic joint pain. The basal metabolic rate was minus 15 per cent. On November 20, 1926, a bilateral subtotal lobectomy was performed. Arthritic pains entirely subsided and Miss C. is working constantly, now four years, after the arthritic joints were treated with massage, light, etc., for a month after operation.

We could multiply this experience tenfold. The more attention we pay to this point in examination of our goiter patients, the more conscious we become of the simultaneous occurrence, the frequency, the affinity of goiter with arthritis.

Mrs. M. S. W., age 52, Case No. 23174. Goiter since childhood. For the past year palpitation and shortness of breath. Large adenomatous goiter. Interphalangeal arthritis. Basal metabolic rate minus 5 per cent. Pain in joints. Thyroidectomy October 30, 1928. On December 31, 1928, neuritic and arthritic pains had disappeared.

Mrs. S. C. R., age 27, Case No. 21780. Goiter for past three years, loss of weight, 35 pounds. Nervousness, basal metabolic rate normal, tremor, etc. Had arthritis for seven years. Pain in joints, elbows, knees, and hands. Was in bed for practically two years. Several teeth extracted without relief. Bilateral subtotal lobectomy May 14, 1927. Pathologically, thyroid adenomatous. Immediate relief of joint symptoms.

This patient, despite the removal of the usual foci of infection, was not benefited in four years' treatment before thyroidectomy.

Pemberton's* studies on the blood chemistry of arthritis revealed that lowered tolerance for sugar is frequently present. Here we see an analogy between the tendency to glycosuria in toxic goiter patients and the arthritics.

We are, however, not ready to offer an explanation as to why thyroidectomy gives relief from arthritis. Duncan is inclined to believe that this form of chronic disease of the joints is dependent on a dysfunction of the thyroid. Because of the absence of the usual changes which accompany infectious diseases, we are inclined to the opinion that its origin lies in some form of metabolic disturbance.

The two etiological factors for arthritis coincident with goiter may be the following:

(1) There are foci of infection producing both the thyroidism and the arthritis and the thyroid gland possibly becomes a focus itself. After removing toxins first from the primary focus (tonsils, teeth, etc.) the toxin stored in the thyroid is removed by thyroidectomy and relief is obtained from the arthritic symptoms.

(2) A metabolic disturbance causes the arthritis in goiter. This is much more probable for the following reasons: Pemberton and others have shown that in goiter there is a low tolerance for sugar. Moehlig has shown that the cholesterol metabolism is markedly increased so that gallstones are also frequently seen in goiter patients. As in arthritis, etc., not all gallstones start around infectious material. Gallstones in young women, forming during their first pregnancy, are well known to every surgeon. These usually are many minute stones in an otherwise healthy gallbladder, suggesting their origin from metabolic changes. From this consideration, we believe that the chemical changes in the metabolism of cholesterol and sugar are very probably the contributing factors to the production of arthritis in goiter.

The result of thyroidectomy on such arthritis is so striking that it is worth while to keep this in mind as an indication for op-

*Pemberton, R., Arthritis and Rheumatoid Conditions. Amer. Jour. M. Sc., 166:833-845, 1923.

erating on goiters. Look at your next twenty goiter patients and see how many of them have thickened interphalangeal joints. But to warn against exaggeration, some arthritis coincident with goiter has not improved and one at least got progressively worse after thyroidectomy.

ASTHMA, COUGH, DYSPHAGIA AND CARDIOSPASM

Asthma is again a symptom which may be produced by different causes, emphysema, allergic conditions as in hay fever, etc., and cardiac conditions. An adenomatous goiter causing pressure in the upper aperture of the thorax should also be considered as a possible cause for asthmatic respirations if no other cause can be found. If the trachea is actually compressed in this place by a goiter and such compression can be shown in X-ray, it is easily understood that stertorous or asthmatic respirations will result from such pressure. But also a small goiter not causing constriction of the trachea demonstrable with X-ray, may cause an asthmatic condition by pressure on the vagus or sympathetic nerves.

For instance, an Italian working man, about thirty-five years of age, was suffering from asthma for about a year. A small goiter could be seen rising from the thorax in swallowing. He had had all the usual treatment for asthma. His goiter was removed (Dr. N. M. Allen) and the asthma disappeared completely. We have seen similar cases several times.

A goiter growing into the recess between the trachea and esophagus, as has been frequently described, may cause, as the main symptom, difficulty in swallowing. Anyone who has liberated such a goiter from its retrotracheal layer will readily understand this symptom. Also the post-operative difficulty of swallowing, which usually lasts from one to three days after a goiter operation, will render this symptom easily understood.

The following case illustrates such a condition in an exaggerated way:

A white woman, farmer's wife, thirty years of age, had lost thirty pounds on account of not being able to swallow anything but fluids. She had been examined for esophageal diverticulum, cancer, etc., and had X-rays and esophagoscopy without finding any cause for the dysphagia. A moderate sized goiter was easily seen but the development into the tracheal esophageal recess of this goiter was not appreciated. We removed her goiter and the dysphagia disappeared at once. While in this case the dysphagia was masking the goiter totally, we have frequently observed a lesser degree of interference with swallowing from goiters.

For cardiospasm, which was not improved by the usual dilatation methods of the cardia, we have intentionally removed goiters three times. As cardiospasm is a reflex symptom and not a pathological entity, the goiter again can be the cause of this reflex. One of our patients, a woman forty-five years of age, had cardiospasm with typical X-ray findings with retention of food above the cardia, and had been treated with hydrostatic dilatations for a long time without results. She showed an adenomatous goiter, after removal of which the difficulty in swallowing disappeared.

In a second case, the patient was not cured and still needed dilatations, but was markedly better than before operation. In the third case, thyroidectomy did not improve the cardiospasm. Therefore, thyroidectomy should be advised guardedly in a case of cardiospasm.

VERTIGO, EPILEPSY, AND DEPRESSIVE CONDITIONS

Kocher, in other publications on goiter, as mentioned before, brought out that even a small adenomatous goiter of the diving type, such as we see disappear, in swallowing, back of the clavicle or sternoclavicular joint, may press on the jugular vein and important nerve structures and cause cerebral symptoms, by interference with the reflux of the venous blood from the brain and cause dilatation or constriction of the blood vessels by pressure on the vagus and the sympathetic system.

A lady fifty-five years of age had an adenomatous goiter. Her main complaint was dizziness. While she may have had some arteriosclerosis, this was not so marked as to make a diagnosis of cerebral arteriosclerosis, still we hesitated to promise any improvement on removing her goiter. The symptoms grew worse, the dizziness grew to such an extent that we consulted a neurologist as to cerebellar tumor. However, the symptoms were not such as to make such a diagnosis. Finally, we decided to remove her goiter, which was about two to three inches in diameter. When she entered the hospital she had a black eye from a fall during her dizziness, which did not encourage us for thyroidectomy, still we removed her goiter with the result that her dizziness and vertigo has disappeared and has stayed away now for five years.

This experience made us more aggressive in feeling that symptoms of this kind were caused by the goiter. We have a good many such fine results as the one mentioned, namely, curing of dizziness by removal of the goiter. Usually the patient has an adenoma with a minus metabolic rate, but situated in the upper thoracic aperture, causing symptoms by pressure on vascular and nerve structures.

A goiter with diminished metabolic rate and symptoms of myxedema leads to a diminished stimulus by the thyroid of other organs, including the cerebrum. From this consideration it will be understood why depressive cerebral conditions may be due to goiter. Great care, however, should be exercised in removing goiters for any mental condition. Otherwise great disappointments to patient and physician will be met with and the few cases where removal would be beneficial will not be distinguished.

Mrs. O., about 65 years of age, mother of two teachers, both having had goiters and operated on by us, had quite a severe mental depression, so that the daughters had to stay home for a few weeks at a time to prevent her from doing harm to herself. Again our decision to remove the goiter was very slowly arrived at, but finally it was removed with the result that the lady has had no depressive spells now for two years.

EPILEPSY

A few young people, with epileptic seizures, have consulted us. Usually they are from four to five inches above the normal in height, at the age of sixteen and seventeen, and all are from goiter families. They had been treated for several years by prominent neurologists. Their basal metabolic rates were slightly decreased and they had some hypertrophy of the whole gland. Careful administration of thyroid extract has resulted in a cure of five or six of these cases, cures having lasted now for two and three years. This chapter also should be treated very carefully. Goiter should be manifest, thyroid inheritance should be present, and other endocrine disturbances should draw attention to the possible source of the epileptic seizures in the thyroid. Epilepsy should not be considered as an entity but as a symptom of a good many diseases. We have epilepsy in a depressed skull fracture, in tumors of the brain, as the result of meningitic affection, also from faulty absorption from intestinal stasis, which reminds us of tetany in pyloric obstruction, also from a good many endocrine disturbances. Hyperinsulism as recently described in tumors of the Islands of Langerhans, goes also with epileptoid seizures. Tumors of the suprarenal bodies, besides their peculiar paroxysmal attacks of hypertension, have symptoms of epileptic type.

Seizures of tetany in parathyroid disturbances are epileptic in character, therefore the origin of epileptic seizures from the thyroid is not an exceptional happening by any means in the endocrine sphere.

HIGH BLOOD PRESSURE

Symptoms of high blood pressure are frequently associated with thyroidism. That there may be a real causative connection has been brought out again by the discovery that tumors of the suprarenal bodies have, as outstanding symptoms, paroxysmal attacks of very high blood pressure readings, up to 300 and more. When this chapter was discussed before the American Association of Surgeons two years ago, following a paper written by Miles Porter, who had removed one of these tumors, it was mentioned in the discussion that the same results were obtained in attacks of paroxysmal high blood pressure by removal of a thyroid adenoma. This shows simply that endocrine disturbances may be caused by multiglandular affections and that removal of one or the other may effect a cure by breaking a vicious circle or some other influences not entirely clear as yet. There are cases of high blood pressure and also cases of so-called neurocirculatory asthenia, where adrenal complications are present and in which Crile recommends adrenalectomy in addition to thyroidectomy. This chapter, however, is new and no conclusions should be made at present.

CALCIUM METABOLISM

In late years this question of interlocking glandular disturbances complicating thyroidism has been made still more interesting by the discovery that tumors of the parathyroids or microscopical changes of the parathyroids will cause changes in the calcium metabolism and produce pictures like osteomalacia, fragility of bones, and osteitis fibrosa cystica. Donald Hunter, an English surgeon, in his Goulstonian Lectures, Lancet, April 6th, May 3rd and May 10th, has brought out that changes in the calcium metabolism and thinning of the bones may be caused by a diseased thyroid as well as by a diseased parathyroid. We have had under our observation at least a dozen such cases where lime deficiency in bones, frequent fractures, and conditions simulating osteitis fibrosa cystica or resembling malignant deposits in the bones, should be referred to parathyroidism and perhaps thyroidism.

This condition, that will probably keep the name of "Parathyroidism," gives kaleidoscopic pictures. Some seem to have disturbances of lime contents in the bones early

in life without many symptoms, and only an accidental fracture or a backache leads to X-ray discovery of multiple foci in many bones. Of another group a few classical cases run as follows: The patient around midlife complains of backache, he claims he has gotten shorter, his head has sunken more in between his shoulders, his legs are bowing, the costal arches approach the spines of the ilium more and more. Again, others have multiple fractures, rib fractures especially. The X-ray diagnoses a pathological fracture through a bony area of lime deficiency; usually a diagnosis of multiple metastatic malignancy or myeloma is made, but the patient resists the diagnosis and does not die in four to six years. Still they become invalids, the softened vertebræ crush in, the spine becomes more and more curved; severe root pains along the intercostal nerves make their lives miserable; corsets are applied with but little help. If these patients have, besides general deficiency of bone salts as shown in the radiogram, an elevated serum calcium and an increased calcium excretion (also reduced serum phosphorus and elevated phosphorous secretion), the diagnosis of parathyroidism is justified and a thyro-parathyroidectomy should be performed. To be sure, myeloma and metastatic malignancy should be ruled out carefully by examining for primary foci, cancer of breast or prostate. Many of the cases of osteitis fibrosa cystica, and Paget's disease of the bones, may perhaps belong to this group of parathyroidism. Goiter may complicate the parathyroidism quite often; there may be an underlying tumor of the parathyroid, adenoma or cancer, present (rarely palpable); there may only be microscopical changes present in the structure of the parathyroids (Aschoff); and again, as previously quoted, Donald Hunter claims that the thyroid and parathyroids each have relationship to this decalcifying process.

As far as treatment is concerned, there are now enough cases on record to state that parathyroidism can be cured even after years standing by removal of a parathyroid tumor or diseased parathyroids or perhaps by thyroidectomy (Hunter). Surgical technic demands a parathyroidectomy with more or less removal of the thyroid; perhaps this fact and the presence of parathyroid within goiters explains why thyroidectomy as well as parathyroidectomy may cure parathyroidism. The results of these operations are recorded as splendid; the lime salts return to the bones within six to seven months, the severe neuralgia disappears, the bones again become weight-bearing, no more fractures occur and some patients, after long invalidity, have returned to work.

The tetany symptoms after parathyroidectomy are well controlled by administration of Collip's serum and calcium. Disturbed calcium metabolism with all these symptoms mentioned is a frequent condition; since we have watched for it we have about ten cases collected in a year. Such cases seem to be curable only by thyro-parathyroidectomy.

CONCLUSIONS

1. Very small goiters hardly visible or palpable may cause serious symptoms.
2. Low basal metabolic readings do not rule out a goiter as responsible for a pathological condition.
3. Intestinal disorders, cardiac decompensation, angina-like attacks, cough, hoarseness, arthritis, asthmatic conditions, nervous disorders, not fitting in the usual picture of such conditions, may mask a thyroidism.
4. High blood pressure, especially the paroxysmal type, or the asthenic forms of thyroidism, point to a complicating adrenalism (cortical or medullary), in addition to thyroidism. Insulism indicates thyroidism plus parathyroidism.

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DISCUSSION

DR. LEON M. BOGART (Flint): I would like to draw attention not only to the overwhelming cardiac symptoms, but those who have mild cardiac symptoms. We see them quite often. Three years ago I reported several cases of so-called cardiacs that were cured by thyroidectomy.

These symptoms were rather mild with slight hypertension and tachycardia. One patient in particular, in whom there was a pronounced tachycardia and cardiac decompensation, and was also a diabetic; after a preliminary preparatory regime, a thyroidectomy was done, with an apparent clinical cure of all his symptoms.

I believe we ought to recognize that as we go along we shall meet with more so-called atypical cases in goiter as well as in other diseases. Dr. McClure this morning spoke of a man who reported to him that he hadn't seen any cases of appendicitis in Arabia. Foreigners coming over here tell us that appendicitis is practically unknown in their villages. But with the change of conditions whereby they are taken away from the life they had led close to the soil and come in contact and live the industrial life of their present surroundings, they show a great change, in the incidence of appendicitis, assuming proportions comparable to the native born.

The above phenomenon is often noticed regarding the prevalence of symptoms referable to thyroid dysfunction. The more primitively people live the less thyroid dysfunction they have, unless they come from goiter-infested countries.

I have operated on several hundred colored people and have noticed this: that if they are newcomers from the South and their environment has not changed much, they are not apt to have appendicitis and little if any thyroid disturbance. But after they have lived here for ten or twelve years, the frequency of appendicitis is increased remarkably and they also become subject to thyroid disturbances, the symptoms running a very atypical course.

Dr. William J. Cassidy (Detroit): I think Dr. Ballin stressed the point very, very forcibly in his paper, that in considering the thyroid we must be very careful and not accentuate the thyroid too much, as the causation of these vague symptoms. We have all gone through these various periods of surgical enthusiasm.

The big problem now, in the surgical field, unless you are unduly careful, is: If the patient consults the surgeon of radical type, you will find a high percentage of surgical endeavors which cannot be backed by clinical or laboratory findings. I challenge the pathologist to show the essential cellular difference between a thyroid which showed marked exophthalmic goiter of the type in which the sympathetic nervous system is involved principally and differentiate from the type in which the sympathetic nervous system showed very little change. You can't prove it pathologically any more than you can show adrenalin in the blood and have your adrenals hyperactive. Fortunately surgery has gone far ahead of the laboratory. Surgical procedures are done on very questionable diagnoses in many instances.

I have been interested, during the last two weeks, in a paper by Dr. Clark, of Grace Hospital, in which he evaluated postoperative thyroids and found that less than 14 per cent of the hyperthyroids are benefited by surgery over a period of time and the cases where they were benefited were where they had multiple adenoma and were thrown into mild myxedemic states. The others were not benefited and over a period of time were worse. These are the factors we want. We should have more statistical data from the cardiologist and the medical man and not so much from the large surgical clinics, which have a tendency to sway over the country and give a wrong slant on what surgery can accomplish over a period of years rather than what the immediate surgery can do by the average.

Dr. Henry J. Vanden Berg (Grand Rapids): It is very interesting, refreshing and instructive to hear Dr. Ballin tell us something unusual and out of the ordinary about the thyroid in its relation to variable conditions and complaints. It is true that the internists are only just beginning to realize the importance of the thyroid as an etiological factor in heart cases of long standing.

In making a postoperative study of goiter cases I have learned that goiters are toxic much longer than has been realized. The duration of toxicity can seldom be ascertained until the patient has experienced the result of his operation.. It is only then realized that a case has been toxic usually for several years longer than the time given in the history. I have chosen to call this period that precedes the more definite onset the "smouldering period." The unusual complaints presented by Dr. Ballin have their onset oftentimes somewhere near the beginning of this "smouldering period."

We have seen cases of marked dispositional changes dating from the beginning of the "smouldering period" cleared up immediately after thyroidectomy. One case of chronic cough of fourteen years standing had been intensively studied for suspected tuberculosis. Toxic goiter had not been suspected. It would be interesting to know the number of mild thyro-toxicosis cases that have been treated as incipient tuberculosis. This same patient had looseness of the bowels for the same length of time. After thyroidectomy there was an instant cessation of the cough and the bowels again became regular and the stools formed. There was no reason to believe that the cough was on a mechanical basis.

Indefinite dyspepsia and bowel disturbance of one kind or another are the most freqquent complaints. One case had canker sores for a number of years. It is now two years since her surgery and she has not had a canker sore since. We have seen joint disturbances cleared up after goiter surgery and have also seen joint disturbances appear soon after surgery, but they eventually clear up. This is probably from disturbed body chemistry. We had one case of falling out of the hair as noted by Dr. Ballin.

I made a study of epilepsy a few years ago in relation to the endocrines, but I was not able to limit the endocrine disturbance to the thyroid alone. It was my conclusion that the gonads played a more prominent rôle. Our experience coincides with that of Dr. Ballin in relation to the metabolism test. It is valuable, but not infallible. I find the sign of cardiac overaction more constant and more reliable.

I have not been able to convince myself of the relationship between tthe presence of goiter and uterine fibroids.

I want to caution against over-enthusiasm of these interesting citations in their relation to the thyroid, but have them serve as hints or clues pointing to such a possibility in obscure cases.

FURTHER STUDIES IN THE USE OF IODIZED OIL (LIPIODOL) IN THE DIAGNOSIS OF MAXILLARY SINUS DISEASE

WITH A REPORT OF TWO HUNDRED AND TWENTY-FIVE CASES

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Since 1926 the literature has become quite voluminous on the subject of iodized oil in the diagnosis of sinus disease. This simply indicates that the rhinolaryngologists of the country are gradually coming to rely more and more on this exceedingly valuable diagnostic aid. The object of this paper is not to present anything particularly new, but to stimulate further interest in certain phases of the subject which we feel need more study. We refer, especially, to errors in interpretation, the character of the pathology, the effect of iodized oil on the mucous membranes and the emptying time of the maxillary sinus.

The rhinologist and roentgenologist are called upon many times to answer the question of antrum disease. This is done because the medical profession, at large, is now looking at the sinuses as possible foci of infection. Today, many internists and general practitioners make use of transillumination and when a hazy sinus is found turn to the above specialists for an opinion. Aside from the history and findings in the nose, nothing is of more value than iodized oil in helping to determine the presence or absence of pathology.

Iodized oil is of the greatest value in the following conditions:

1. Borderline cases. Every rhinologist has been confronted with a hazy sinus, cloudy X-ray films and clear washings or different combinations of these and still not be satisfied that pathology is absent. Here iodized oil is of great assistance.

2. Type and extent of pathology. This, of course, is relative and must not be relied upon too completely; however, a thickened membrane of any material degree is demonstrated. Small polypi and polypoid membrane in patches are not readily differentiated from thickened membrane. Polypi of moderate size are practically always outlined. Except by looking into the sinus, nothing lends as much information as to the type of therapy to pursue as this opaque medium.

3. Anatomical variations: The sinus hazy to transillumination and X-ray may be due to thick bone. The sinus may be anatomically small or septa may be present. These conditions are all clarified by iodized oil.

LIPIODOL TECHNIC

There is little to be said about the method of injecting iodized oil, except to state the method used in this series. The anesthesia consists of equal parts of 10 per cent cocaine and 1-1000 adrenalin on a small applicator, which is placed in the inferior meatus and left about fifteen minutes. A 16 gauge needle with a small piece of attached rubber tubing is used for puncture. A 10 c.c. syringe is used. We have followed Fraser's method of dilution, using one part of lipiodol to two parts of petrolatum. This mixture is slightly warmed before injecting. If both antra are to be filled, the head is kept in the upright position, otherwise the head is rotated to the side to be filled. Usually a preliminary washing of physiological saline is carried out; however, injections have been made without this. The injection is continued until oil is seen coming over the inferior turbinate. A moist piece of cotton is then placed in the region of the middle meatus and the patient is sent to the X-ray Department, five floors below.

ROENTGEN TECHNIC

From time to time films have been made in all the standard positions which are used for examination of the paranasal sinuses, but the greatest amount of information has been gained from films made in the Waters postero-anterior and in the lateral positions. Progress films to check the emptying time and any further pathology have been made at various intervals. For this purpose single postero-anterior films are made to prevent injury to the hair by over-exposure. In

those cases in which the pathology is not clear or a differential diagnosis cannot be made from these standard films, it is advisable to employ other positions to show the particular portion of the antrum in question.

ROENTGEN-RAY CHARACTERISTICS

In the roentgenogram of the uninjected antrum the bony outline is plainly shown together with any variation from the normal bony contour. In addition soft tissue tumors and polypi can usually be demonstrated if their size and position are such that they are seen in silhouette. The normal air containing antrum also has a characteristic appearance, but there are variations between this and the antrum of undoubted pathology which are difficult of interpretation. This class of cases and the desire to disclose hidden foci of infection have led the roentgenologist and the rhinologist to search for methods of completely outlining the paranasal sinuses and iodized oil has seemed to be the most effective agent for accomplishing this purpose.

When the normal antrum has been well filled with iodized oil, the shadow of the opaque medium will be seen to be the size and shape of the antral cavity as outlined by the bony contour. Between the bony outline and the opaque medium is a narrow clear space of approximately one millimeter which corresponds to the space occupied by the normal mucous membrane.

In those cases presenting thickening of the antral mucous membrane, there is a widening of this distance between the bony wall and the opaque medium, and there is frequently a fuzziness or irregularity of the outline of the opaque shadow. This widened space gives preoperative information in regard to the condition of the mucous membrane which can be obtained in no other way.

Polypi produce more localized filling defects, frequently round or oval, and may or may not be associated with evidence of thickening of the mucous membrane. They may be seen in the postero-anterior and lateral projections, or in both, depending upon their position in the antrum. They are occasionally obscured by the complete filling of the antrum and are disclosed on the subsequent examinations after partial emptying has taken place. They may be disclosed also by an area of lessened density in the opaque material, but without the definite defect and it is these cases which are most apt to be disclosed after partial emptying. In some cases the polypoid degeneration of the mucous membrane is so marked that the individual polypi can be seen with difficulty or not at all, and the picture is that of a very small antral cavity of irregular outline and density with clouding of the space between this and the bony outline.

In those cases where polypi have been disclosed roentgenologically, either with or without the aid of iodized oil, Doub and McGee[1] found a high percentage of operative confirmation. However, many cases with polypi are not seen on plain films because of their size and position, and also because of a thickened superimposed mucous membrane and it is in these cases that iodized oil comes to our aid very effectively.

EFFECT OF IODIZED OIL OF THE MUCOUS MEMBRANE

The study of the retention of iodized oil in the maxillary sinus as to whether it might mask the picture by causing an edema of the mucosa, was further checked by some animal experimentation. Four dogs were anesthetized and lipiodol injected into the right maxillary sinus of each, the left sinus being kept as a control. The naris on the right side was plugged with moist cotton to retain the oil since the dog's ostium permits very free empyting of the sinus. X-ray films were then made. Mucosa from both right and left sinuses were taken on each of four succeeding days. When compared microscopically no evidence of edema or destruction could be found in any of the specimens studied. A second series were run as controls and these likewise were negative. Apparently the mucosa of the sinus in the dog is not sensitive to iodized oil in the proportion of one part lipiodol to two parts of petrolatum. Only one patient in the series here reported showed sensitivity to the iodized oil. This individual reacted as an ordinary vasomotor rhinitis case.

EMPTYING TIME

Very little emphasis has been placed upon the emptying time of the maxillary sinus as a diagnostic aid. Proetz[2] has found it of sufficient value to follow the immediate films by another in seventy-two hours. To date no records have been published as to the average emptying time of the normal

sinus or that of pathological ones. We have made observations on twenty-five cases. Twenty of these had films made in forty-eight hours and sixteen were still full or partially so at the end of this time. Twelve of these or 75 per cent showed positive evidence of pathology, while four were considered negative for filling defect. Of the four which were empty in forty-eight hours, no filling defect was found in the immediate films in any of them. The remaining five cases of the total series were checked as follows: Two in twenty-four hours with much retention and filling defects; the other three in seventy-two hours, and all were positive for retention and pathology.

There are several factors which must be taken into consideration regarding the emptying time of the maxillary sinus:

1. Anatomical and pathological conditions in the nose itself. This refers to deflected septum, hypertrophied turbinates and polypi. In going over this series, twelve had one or more of the above conditions, while thirteen showed free ventilation.

2. Pathology within the sinus itself. It is obvious that any pathology about the ostium retards emptying. This is frequently demonstrated by iodized oil.

3. Proetz[2] has considered one's habits of sleeping and nose blowing as factors.

There are two valuable points to be gathered in checking the emptying of the antrum:

1. Pathological defects are frequently brought out in 48 to 72 hours which were obscured when the sinus was full. This is particularly true of polypi. A thickened membrane may be more pronounced also; however, errors in interpretation may arise due to the oil conforming to a partially filled normal sinus. These conditions have been described in detail by Fraser.[3] Anderson[4] has used the fluoroscope in partially filled sinuses to bring out abnormalities.

2. There is probably a rate of emptying of the maxillary antrum which is pathognomic of disease. Our series of cases is too small to draw any conclusions, but the study will be continued for future consideration.

COMPARATIVE DATA ON OPERATED AND NON-OPERATED CASES

Two hundred and twenty-five cases were injected with lipiodol, most of which were bilateral fillings. The majority of these patients were referred to the Division of Rhinolaryngology from the Clinic as diagnostic problems. Fifty patients received a Caldwell Luc operation. Of the remaining 175 cases, 70 per cent had positive lipiodol findings and a majority of these were advised to have operative work done. Our interest centered in the reliability of lipiodol findings, not only as a diagnostic aid but also as to how far they might be depended upon to govern the type of therapy to be pursued.

A table of comparisons will first be considered before reporting individual cases as examples.

Table No. 1—Comparisons in Operated Group

		Percentage of Accuracy
Operations 50 Positive Cases	*Lipiodol* 48 Positive 2 Negative	96
Operations 35 Positive Cases	*Plain X-rays* 31 Positive 4 Negative	79
Plain X-ray 35 Cases	*Lipiodol* 29 Agreed 6 Disagreed	82.8
Operations 32 Positive Cases	*Washings* 14 Negative 18 Positive	56
Operations 46 Positive Cases	*Transillumination* 40 Positive 6 Negative	87
Washings 31 Cases	*Lipiodol* 18 Agree 13 Disagree	58
Transillumination 46 Cases	*Lipiodol* 38 Agree 8 Disagree	82.5

Table No. 2—Comparisons in Unoperated Group

		Percentage Agreement
Plain X-ray 83 Cases	*Lipiodol* 64 Agree 19 Disagree	76
Washings 98 Cases	*Lipiodol* 55 Agree 43 Disagree	56
Transillumination 163 Cases	*Lipiodal* 111 Agree 52 Disagree	68
Total Cases Unoperated 175	*Lipiodol Positive* 123	70

The following cases are presented as examples of the series to show the value of lipiodol as a diagnostic aid where other methods of examination may be confusing. Also the degree of accuracy between lipiodol findings and those at operation.

Case 1.—J. B. D., male, age 52.

History: Submucous resection in 1924. Lately post-nasal dropping and colds frequently.

Examination: Polyp right middle meatus. Sinuses transilluminate cloudy both right and left. The right sinus only is washed and contains a few shreds.

X-ray: Lipiodol—Immediate films: Right antrum is fairly well visualized, but definite thickening of

the membrane is present. Left antrum shows a small amount of lipiodol. The outline is quite irregular and shows evidence of pathology. Impression: Chronic antra, bilateral, particularly the left. Lipiodol—48 hours: Large amount remaining in right and small amount scattered throughout left, showing moderate retention.

Operation: Both antral cavities are found to be practically filled with polyps and some encapsulated pus, the left more pronounced than the right.

Microscopic: Sections show epithelial lining of sinuses markedly hypertrophied and arranged in many rows which are well preserved. The epithelium and also the stroma shows rather intense infiltration by round, wandering cells and plasma cells. Eosinophiles are abundant.

Discussion: This case presents a relative relationship between lipiodol and operative findings; however, polypi were not detected in lipiodol films. Retention on the right side was due to antral polyp in the middle meatus. The left side showed less lipiodol in both the immediate and the forty-eight hour films, this was explained by the greater amount of polyposis in this antrum.

Case 2.—J. U., male, age 64.

History: Asthma. Frequent head colds, attacks of nasal blocking.

Examination: Sinuses—Transilluminate clearly right and left. Washings clear.

X-rays: Plain film—Definite clouding of both antra. Lipiodol: Immediate—slight thickening of membrane of both antra. 48 hour—Right still quite completely filled. Left—half filled. 96 hour—Almost complete retention in right antrum and a considerable amount in the left. Some increase in distance between lipiodol and bony outline on right, less on left.

Operation: Definite thickening of mucous membrane of both antra, right more than left. Some small polypi in base of each and some around the ostium of each.

Discussion: The interesting point here is the value of delayed emptying which prompted surgical intervention. Transillumination, washings, plain and immediate films were confusing. Polypi in the sinuses around the ostia accounted for the delayed emptying and were not discovered except in delayed emptying time films.

Case 3.—F. S., male, age 39.

History: Asthma, Caldwell Luc, right, six years ago. Antro meatal six weeks ago. Much post-nasal discharge. Worse with asthmatic attacks.

Examination: Sinuses: Transilluminate cloudy. Washings—pus right and left.

X-ray: Plain film: Thickening of membrane right and small polyp in the base. Left is clear. Lipiodol—Immediate—Some thickening of mucous membrane at base of each—right more than left. 48 hour film—Considerable lipiodol in both antra, particularly the left. There is thickening of mucous membrane.

Operation: Much to our surprise, on opening each antrum, we find them filled with polypi and cystic abscess formation.

Pathological Examination: Sections show the sinus lined for the most part by several rows of cuboidal epithelium. The underlying tissue is intensely infiltrated by round, wandering cells, eosinophiles and plasma cells, eosinophiles predominating.

Discussion: All types of examination check for pathology but the degree was disappointing as found at operation.

Case 4.—A. M., female, age 22.

History: Nasal obstruction and sneezing attacks lasting a day or so winter and summer. Post-nasal dropping.

Examination: Sinuses—Transilluminate clearly on right and left. Washings clear right and left—much pain.

X-ray: Plain film: Definite clouding of the antra. Lipiodol: Very small amount of lipiodol in left antrum. Remainder of cavity appears filled with thick mucous membrane. Right side has considerably more lipiodol. Mucous membrane quite thick and irregular.

Operation: Caldwell Luc. Both antra were almost filled with polypi and thickened membrane. There is practically no cavity on the left side at all.

Discussion: This case is presented to show confusion of transillumination and washings with plain and lipiodol films. The pathology found corresponds with the lipiodol films. The polyposis was extensive and confused with thickened membrane in films.

Case 5.—L. H., female, age 35.

History: Asthma. Polyps removed during 1916, also turbinectomy done. Post-nasal dropping and slight obstruction. No acute sinus infection known.

Examination: Sinuses—Transillumination—Hazy right and left. Washings are clear right and left.

X-ray: Plain film—clear. Lipiodol—outlines irregular, evidence of marked thickening of mucous membrane, both sides.

Operation: Right—polypi present with thickened membrane. Left—partition bony and membranous—not complete. Polypi in both compartments.

Discussion: Lipiodol films made the diagnosis where transillumination, washings and plain films failed.

Case 6.—R. N., male, age 31.

History: Considerable dropping post-nasally. Very little discharge anteriorly, rather frequent and long continued colds in winter.

Examination: Sinuses: Transilluminate cloudy right and left.

X-rays: Plain film—slight suggestion of hazing of both antra. Lipiodol: Left fairly well filled and shows slightly thickened membrane. Right shows considerable thickening.

Operation: Caldwell Luc. Mucous membrane on right side is thick. That on the left is practically normal.

Discussion: This case is used to illustrate the possible value of lipiodol films in determining the type of operation to be used. A window operation would seem to be sufficient here.

DISCUSSION

In the study of this group of cases some interesting points are disclosed. An attempt was made to evaluate lipiodol as a diagnostic aid. It was compared in fifty operated cases by the Caldwell Luc method and found to check in 96 per cent as to the presence of pathology. All these cases at operation showed some grade of pathology. The desire was to show a close degree of pathology between lipiodol and operation, but it was found that this was only relative. Polypi shown on the lipiodol films were always found to be present at operation. The greatest discrepancy came in the presence of small polypi and polypoid membrane. The lipiodol films usually pictured these as varying degrees of thickened membrane.

Emptying time and pathology not shown in the immediate films were sought in succeeding examinations. Only a small series of twenty-five cases were studied in this manner. It was found that pathology either in the nose or sinuses or both usually ex-

plained the possible delay in emptying. In some of the cases pathology was not seen in the immediate films to suggest the possibility of a delay in emptying and consequently a factor for retention of infection. Again it was found that partial emptying sometimes revealed polypi and thickened membrane, which were not disclosed when the sinus was full. These observations would seem to justify follow-up films in forty-eight or seventy-two hours where the immediate films seemed normal and yet there was a suspicion of sinus disease. The question of increased thickening of membrane in some of these cases brought up the problem as to the effect of iodized oil on the mucous membrane when left in contact with it two or three days. The studies carried out on the dog, as noted in a preceding paragraph, disproved any detrimental effect in that animal. The privilege of examining normal human membrane under similar conditions has not as yet been afforded.

The other methods of examination of the maxillary sinus, such as transillumination, plain X-ray films and washings, fall considerably behind lipiodol as noted in Chart 1. Transillumination came nearest to lipiodol, having an accuracy of 87 per cent. Plain X-ray was second to transillumination with a percentage of 79. Washings were the most disappointing, showing only 56 per cent. This is a very significant and interesting fact. Before the days of iodized oil a cloudy sinus and clear washings with a negative nose usually passed the sinus as not having significant pathology in it. Today, one looks with suspicion upon a suspected sinus with negative washings until a lipiodol film has been studied.

CONCLUSIONS

1. Two hundred and twenty-five cases had the maxillary sinus or sinuses injected with lipiodol. The Caldwell Luc operation was done on fifty positive cases.
2. Of the one hundred and seventy-five cases not operated—positive lipiodol films were present in 70 per cent.
3. Lipiodol agreed as to the presence of pathology in 96 per cent of the operated cases.
4. The character and extent of the pathology was only relative when the lipiodol findings were compared with those at operation.
5. Forty-eight or seventy-two hour films sometimes reveal pathology not seen in the immediate films.
6. Washing of the maxillary sinus was dependable only to 56 per cent as compared to 96 per cent by lipiodol.

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DISCUSSION

Dr. W. E. McGarvey (Jackson): I wish to compliment Dr. Whitney on the comprehensive way he has discussed this subject. I note that he has confined his remarks to the injection of lipiodol in the maxillary sinus. In my practice where the patient has to go several blocks to have an X-ray taken, its use in the other sinuses has not proven very practical. Even in the antrum I have found that a small amount of the lipiodol has been lost before the X-ray film is taken. This fact is demonstrated when the right antrum, for example, is injected—the plate with the left side of the face next to the film shows a larger opaque area than when the right side is next to the film. In the first position the base of the antrum is filled while in the second position the lipiodol gravitates into the apex and is insufficient in amount to completely fill the base, giving thereby a smaller opaque area. Misinterpretation of plates must occasionally be watched in the lateral positions where the infraorbital and alveolar canal ridges might resemble filling defects.

Dr. Whitney has pointed out the comparative advantages of lipiodol injection with the usual X-ray film, transillumination and irrigation, the latter being least reliable. One point I have found of value—that is, when there is an obstruction to the return flow on irrigation I usually try to have a lipiodol injection made to determine whether there is pathology, especially around the ostium. As has been pointed out, a subsequent film to determine the emptying time is of value, indicating frequently a thickening of the mucosa around the ostium or a loss of the function of ciliated epithelium. However, from a theoretical standpoint I would think that an opaque powder insufflated into the antrum and X-rayed with a series of films would be a truer criterion of the action of the cilia than the oil which gravitates out readily. In this regard I would like to ask Dr. Whitney two questions. What is the action of the ciliated epithelium in clearing the lipiodol out of the antrum; and secondly, whether Dr. Whitney feels justified in doing any radical surgery when he feels sure that the function of the ciliated epithelium has been impaired or the mucosa thickened. Certainly the use of lipiodol has increased our knowledge of sinus disease. In this morning's discussion a statement was made that hyperplastic mucosa does no relative harm. Yet if the ciliated epithelium has lost its function and there is a focus of infection are we not justified in taking definite steps to eradicate it? I feel since the introduction of lipiodol and the ability to better demonstrate antrum pathology that our surgery in this area is becoming more radical.

Dr. Carl F. Snapp (Grand Rapids, Mich.): I wish to thank Dr. Whitney for bringing this subject before us. It is a very timely one and one which is worthy of much study and investigation. I have had considerable experience with the use of iodized oil in the antra, but very little with its

use in the other sinuses. I find it invaluable in diagnosing hyperplastic conditions of the antrum and feel that it is undoubtedly of equal value in the other cavities. The chance for error, however, would seem greater than in the antrum. One point which should be mentioned in this connection is the possibility of an allergic reaction in the sinus which may reveal a marked filling defect at one time and later present a perfectly normal lining membrane. This has been demonstrated by Proetz and was referred to by Dr. Iglauer this morning in the conference. It is believed that the oil may act as an irritant in some instances, thereby setting up on allergic reaction.

Dr. E. L. Whitney (closing discussion): Regarding Dr. McGarvey's question as to the action of the cilia of the mucous membrane, I cannot give any more information than the experimental work, which has already been done. Some antrums opened by the Caldwell Luc method will show areas of fairly good looking mucous membrane. In such cases, we do not remove this but only the polypoid sections. However, if I am dealing with an asthmatic patient, I believe in removing the entire mucous membrane as nearly as possible. Sections of the mucous membrane are regularly sent to the laboratory for study. I have several slides with me, but time will not permit showing them. They are typical of cellular infiltration with increase of eosinophiles in the asthmatic cases and many of these sections show ciliated epithelium partially destroyed.

As to the method of transillumination, I have used the Freer-Jackson transilluminator.

I think Dr. Robb brought up a good point about the density of the oil. In our observation, I think, it is not wise to have the oil too dense, particularly in the immediate X-ray films, because it sometimes obliterates polypi in the deeper portions of the sinus. The only object in not using a lighter oil is that it will run out of the sinus more quickly.

INTESTINAL ANOMALY REVEALED BY EMERGENCY OPERATION FOLLOWING MOTOR ACCIDENT

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I have always believed that a physician in reporting a case should be influenced by the desire that others may profit from his experience and results, or that his case may be so unusual that it merits particular attention. There has been no new or unusual treatment tried in my case and probably the only value of this paper may be to encourage the men who are located in more or less isolated regions, as I am myself, to proceed along similar lines when confronted by the problems that arose in this instance. Therefore my reason in reporting this, as you will see, is to bring before you a most amazing series of incidents that followed—let us say—an ordinary automobile accident.

Katherine K., a slender, well-proportioned girl 26 years of age, weighing 122 pounds, and five feet eight inches tall, was admitted to Pleasant Home Hospital at 5 p. m. on March 2, 1930. At the time of admission she was in great shock and pulseless, but with no indication of internal hemorrhage. The right leg was in marked adduction and about four inches shorter than the left. She was put to bed and treated for shock, but nothing was done to increase the blood volume or greatly raise the pressure.

The following day X-ray examination was completed and, as Fig. 1 shows, she had a complete shattering fracture of the right acetabulum with a posterior dislocation of the femur; almost complete separation of the sacro-iliac synchondrosis and a short, incomplete, isolated fracture of the ilium.

On March 4, reduction of the femur under the fluoroscope was attempted and it was found that the head of the femur would pass through the acetabulum into the pelvis. She was placed in a frame with 26 pounds longitudinal and 16 pounds lateral extension instituted.

Figure 2 is a view of the pelvis at the time traction was applied. Under this treatment recovery was uneventful until the night of March 29 (twenty-seven days after her admission to the hospital), when she became suddenly ill with cramps in the lower abdomen and with pain and rigidity in the right quadrant low down. She had menstruated two weeks before her accident and as there had been no menstruation during her hospitalization it was at first thought her pain was menstrual cramps. However, the next day, March 30, she was unimproved. Her temperature went to 100 degrees, pulse to 160, while the white blood count was 22,300. Differential count was 91% polymorphonuclear. On examination via the vaginal and rectal routes a large mass was found low in the right quadrant which seemed to involve the right tube. In spite of a negative sexual history a tentative diagnosis of ectopic pregnancy was made.

The next morning, March 31, fecal vomiting had started and her abdomen began to fill with fluid. White count had dropped to 16,500, but an emergency laparotomy was performed beginning at 1:30 and ending at 2:30 p. m. The abdomen was filled with fresh blood and serous fluid. Acute peritonitis was apparent. The mass in the right pelvis was about the size of a small orange and adherent to the pelvic wall opposite the acetabulum. It was readily stripped loose and was found to be the omentum undergoing decomposition.

The pathological report was as follows:

Specimen is omentum 7 x 5 x 1.5 cm. There is a rather extensive hemorrhagic area, probably where the specimen was in contact with the pelvic wall, and there is some organization present. Sections reveal hemorrhagic areas and some connective tissue changes. There are some thickened blood vessels, and a few blood vessels in sections from the middle of the specimen which are partially thrombosed and

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there is organization taking place. There is also some hyalinization.

The end of the cecum was located high, just above the level of the umbilicus, and except for the peritoneal involvement had a normal appendix which was removed. The transverse colon was small and very high, lying across the stomach. The entire large bowel was collapsed.

It was impossible to take time to study the attachments of the large bowel because of the serious general condition of the patient, and there was still an unlocated abdominal hemorrhage. A mass comprising several loops of small intestine which had become recently adherent was found just above the umbilicus and slightly to the right of the median line. The adhesions were quickly and easily separated and it was found that the ileum passed through a small tunnel underneath or behind the duodenum, just below the duct system. Here was the obstruction. It was caused by an inflammatory congestion of the ileum and the somewhat fibrous tunnel through which it passed. The peritonitis was brought about by failure of the omentum to completely organize. The portion of the ileum passing through the tunnel and six or eight inches distal to that area was becoming gangrenous.

Curiously, the source of hemorrhage at this time was located underneath the ileum and was from a tear extending from the tunnel down into the mesentery of the small intestines and caused by pressure from the distended ileum. This was repaired with a suture through the mesentery. The tunnel was then carefully enlarged laterally and downwards along the duodenum, to avoid mesenterial hemorrhage and the obstruction was overcome. After enlarging the tunnel, the cecum could be pulled into it, or, grasping the cecum and drawing laterally, several inches of the ileum could be pulled through.

A cigarette drain was then placed in the pelvis and the abdomen closed and a transfusion given. Following a very stormy four days the patient made an uneventful recovery. Figure 3 is a graphic chart showing the patient's record two days before operation, day of operation, and the following four days. At the end of five weeks extension was discontinued and the patient put in a cast extending from foot to umbilicus, with the knee slightly flexed and the leg in abduction and slight external rotation. She was then removed to a hospital in her home city to convalesce from her pelvic injuries. Figure 4 shows the position of the pelvic bones at the time she left the hospital on April 23. Thus it may be seen that she still appears to be making a good recovery.

Fig. 1. Skiagraph showing the patient's pelvis on admission to the hospital; i.e., fracture of right acetabulum, dislocation of femur, complete separation of the sacroiliac synchondrosis and small isolated fracture of the ileum.

Fig. 2. A second view of the pelvis at the time traction was applied.

I have as briefly as possible outlined the different situations that arose with this patient and the method of handling them, so I shall now summarize them as follows:

1. The Omentum. We know the omentum to be a very variable structure in size and location and sometimes to be entirely absent. In the fetus it is composed of two layers or folds, an anterior and posterior. The former passes over the transverse colon, but is not adherent to it and faces forward into the greater peritoneal cavity. Turning backward on itself it forms the posterior fold which extends up to the transverse colon and would face into the lesser peritoneal cavity. In the adult the two layers are fused into one. It extends from the greater curvature of the stomach and receives its blood supply from long, very slender vessels which come from the gastro-epiploic system. The vessels extend down the omentum to the folded border and then upward in what was the posterior fold to anastomose with the vessels of the transverse colon.

As already stated, the omentum was found in a mass adherent to the right pelvis. We know that the patient was rolled and

twisted but how the omentum was torn loose must be a matter of conjecture. It was gratifying to realize that I had done nothing in treating her shock which would materially elevate her blood pressure. It is highly probable that whatever tore or

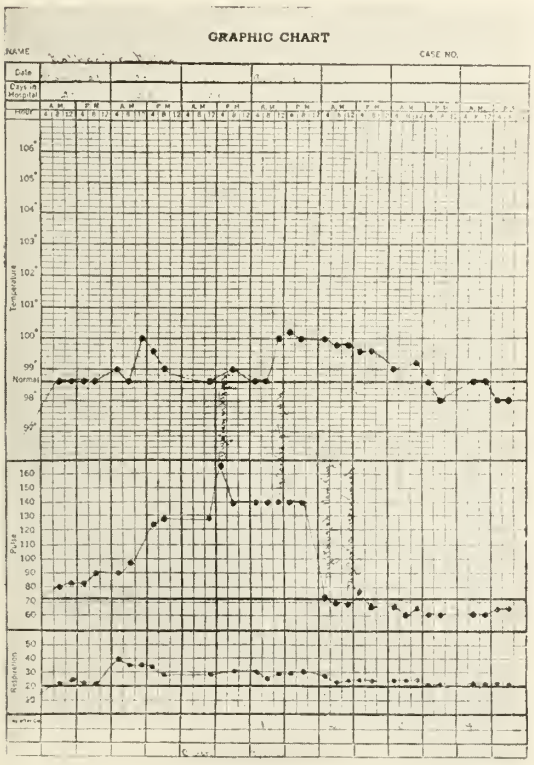

Fig. 3. A graphic chart showing patient's record two days before and four days after operation.

twisted the omentum loose also strangulated the blood supply for, as already stated, the patient had no symptoms of hemorrhage until the morning of her operation.

2. The Anomaly of the Ileum. We know that during its development the abdominal portion of the alimentary canal may undergo a variety of perversions. Developmental displacements of the foregut and hindgut are exceedingly rare, while malpositions of the midgut (the intestine from the duodenal papilla to the left third of the transverse colon) is frequently in the literature, especially in the surgery of infancy.

The reason for the greater frequency of error in the midgut is to be found in the more complicated evolution of its natural disposition in the abdomen. In order to understand more clearly what took place in this patient, it would be well to review the embryology of the fetus up to where the anomaly which I found could develop. "The first indication of the alimentary canal is the entodermic vesicle of the zygote. By a constriction the vesicle becomes divided into an intra-embryonic portion—the future alimentary canal and its appendages—and

Fig. 4. Position of the pelvic bones on leaving hospital April 23, 1930. This patient is now walking without a limp and with but very slight pain (November 29, 1930).

an extra-embryonic portion—the yolk sac; the intervening constriction is the vitello-intestinal duct." As the embryo elongates, the alimentary canal takes the form of a tube, with its subdivisions the foregut, midgut, and hindgut. These parts constitute three distinct loops. It is based on blood supply: this is distinct for each part, the celiac axis, superior mesenteric, and inferior mesenteric arteries respectively. The three subdivisions, applicable to function—the foregut, digestive; the midgut, absorptive; the hindgut, excretory are suspended by the common dorsal mesentery (Fig. 5).

We are particularly concerned with the midgut, which has a ventral attachment, by the vitello-intestinal duct, to the yolk sac. This is lost at an early period. The stomach and the duodenum down to the biliary papilla are formed by the abdominal portion of the foregut and as early as the fourth week, the oblique direction and bulging curvature of the stomach appears, show-

ing the result of its unequal growth. Thus the shape and posture of the stomach depend on intrinsic forces and are very constant. "The upper part of the duodenum is deviated to the right by the stomach; its mesentery becomes thickened and shortened, and into the latter the dorsal pancreatic rudiment grows during the fourth week. The position of the upper part of the duodenum is equally as constant as that of the stomach; the growth of the pancreas into its mesentery is responsible for its curvature and fixation. Thus the duodenum at the level of the biliary papilla is, at a very early period, a fixed and constant point, a little to the right of the midline, from which the midgut loop depends (Fig. 6).

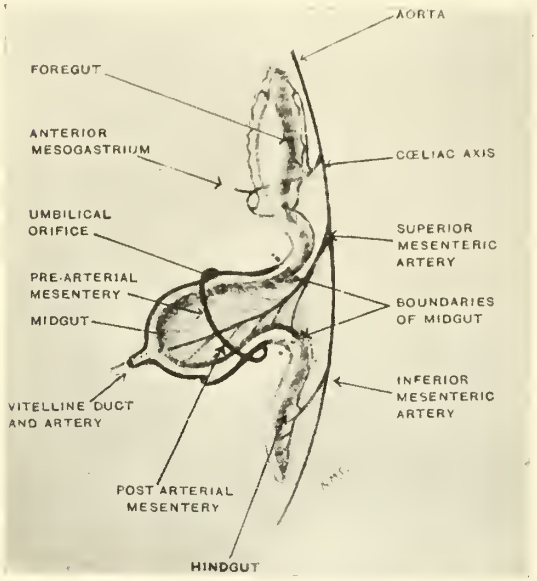

Fig. 5. A figure of the embryo showing the first indication of alimentary canal around the fifth week.

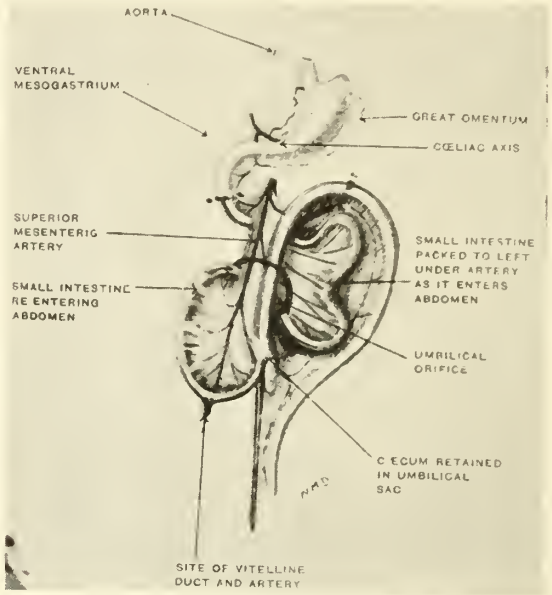

Fig. 6. Development between fifth and tenth weeks.

In the British Journal of Surgery, Vol. 11, Dr. Norman Dott gives in his "Anomalies of Intestinal Rotation," the following description of the embryological rotation through its first and second stages. "At first the hindgut occupies the middle line of the abdomen. From its upper end a 'retention band,' a mesenchymal thickening in the mesentery, passes upwards to the condensed tissue about the origin of the superior mesenteric artery. This retention band does not keep pace in growth with the gut or mesentery, so that it forms an anchorage by which the upper end of the hindgut is relatively approximated to the origin of the artery as growth proceeds. The gut, being 'hitched up' by the band, is bent by it at the junction of midgut and hindgut; this flexure is known as the colic angle. The colic angle is, at a very early period, a fixed point at the upper end of the hindgut, from which the midgut loop depends. It will be noted that the duodenum and colic angle are close to each other, and, being fixed points, the growth of the embryo causes their relative approximation, so that they form a narrow isthmus — the duodeno-colic isthmus — to which the two limbs of the midgut loop are attached.

"The midgut grows very rapidly in length, and forms a large loop, convex forwards. Already at the fourth week the vitello-intestinal duct has lost its connection with the yolk sac and umbilical cord. The rapid growth of the midgut loop and of the liver so diminishes the available abdominal space that the former is extruded into the root of the cord as a temporary and physiological umbilical hernia. At the apex of the herniated loop is the former site of the vitello-intestinal duct and the termination of the superior mesenteric artery—formerly the right omphalo-mesenteric artery. The vessel runs from the dorsal aorta, between the closely approximated ends of the midgut loop, to its apex; it lies in the mesentery of the loop, and sends branches forwards to its anterior segment and backwards to its posterior segment. The loop still lies in the

sagittal plane; its anterior segment is the pre-arterial segment, and its half of the mesentery the pre-arterial mesentery; the posterior segment is the post-arterial segment, and its half of the mesentery the post-arterial mesentery. During the fifth week

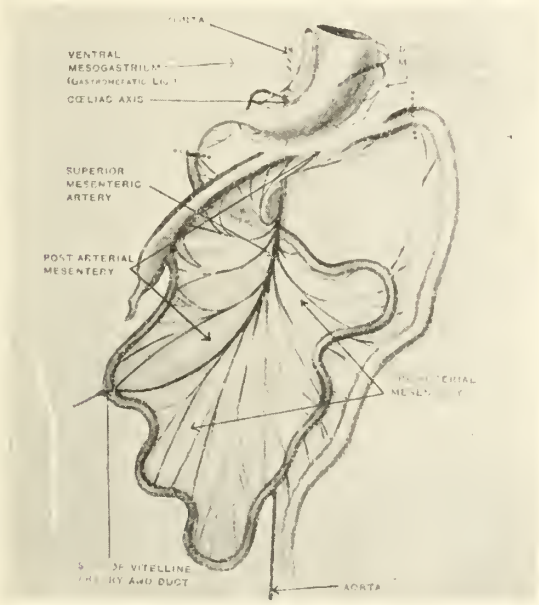

Fig. 7. Second stage of rotation completed shortly after the tenth week.

the bud for the ceco-appendix appears on the post-arterial segment of the loop.

"We have now traced the development of the midgut loop up to the fifth week. It constitutes a loop of bowel projecting forwards in the sagittal plane into the umbilical cord. The base of the loop is narrow and contains the artery of supply between its closely approximated segments. The basal attachment of the pre-arterial segment is slightly to the right of the midline on account of its duodenal attachment. We are now in a position to study the rotation of the loop.

"The first stage of rotation takes place while the loop lies in the umbilical cord, between the fifth and tenth weeks. The second stage occurs mainly during its reduction into the abdomen at the tenth week, and is completed when the cecum reaches the right loin at the eleventh week. The third stage progresses from that time until birth or a short time after it.

"The first stage of rotation. The left umbilical vein persists; the right one disappears. As the right lobe of the liver enlarges and descends, the left umbilical vein is carried downwards and to the right. As it deviates in this direction it exerts pressure upon the pre-arterial segment of the midgut loop near its base. The gut is carried downwards (caudally) and to the right. The

Fig. 8. A sketch of the anomaly when produced in the cadaver very closely resembles the anomaly found in this case.

pre- and post-arterial segments being placed side by side within the narrow circle of the umbilical orifice, the latter is naturally displaced upwards (cranially) and to the left by the former. The intestine rapidly increases in length, so that there results an S-shaped flexure, the pre-arterial segment forming the right half, and the post-arterial the left half. This is the first stage of rotation. Failure of rotation up to this stage occurs only in connection with extroversion of the cloaca, and the term 'non-rotation' refers to a failure in the second stage. During their stay in the umbilical cord, the pre-arterial grows more rapidly in length than does the post-arterial segment, so that the former and its mesentery become disproportionately elongated. In this way the superior mesenteric artery acquires a relatively closer relation to the post-arterial segment. The cecum and adjacent colon have meanwhile increased in thickness, and constitute a considerable swelling upon the post-arterial segment.

"The second stage of rotation. About the beginning of the tenth week the midgut loop is returned to the abdominal cavity. Frazer and Robbins point out that it is not possible for the bulky hernial content to return en masse through the narrow umbilical orifice. The cecum especially offers resistance to this passage. They believe that the pre-arterial segment returns first, in continuity of its length, basal end foremost. The

cecum, adjacent ileum, and colon are still in the cord, and they hold with them the termination of the superior mesenteric artery. It will thus be seen that during the return of the small intestine the artery is anchored forward to the umbilicus and is suspended across the abdomen between its origin from the aorta and the umbilicus. The small intestine enters the abdomen on the right side of the artery. As its coils collect within the cavity, those first reduced are pushed into the available space behind the outstretched artery by those following on. The hindgut and its mesentery, which occupy the middle line, are pushed before them—folded to the left and backwards (descending colon). The coils bulge upwards under the colic angle, tending to displace it further up (splenic flexure). The last coil of the ileum carries the superior mesenteric artery with it as it now enters the abdomen. At length the cecum is reduced. The cecum now lies free in the region of the umbilicus on a plane anterior to the small intestine and to the mesenteric artery; from here it can pass in any direction. The colon, tending to straighten out, carries the cecum upwards and to the right. The colon comes to lie across the pedicle of the intestinal mass at the origin of the superior mesenteric artery, and the cecum attains a position below the liver. Elongation of the colon causes the cecum to descend into the right loin. The second stage of rotation is complete. It will be noted that the ultimate result of the second stage of rotation is an anti-clockwise turn about the axis of the superior mesenteric artery of 270 degrees from the primitive sagittal position of the loop (not 180 degrees as is often stated). In this way the duodenum is caused to cross behind the superior mesenteric vessels near their origin, while the colon crosses the same point anteriorly" (Fig. 7).

In the case of this young woman the development proceeded normally up to the end of the second stage of rotation or when there is no fusion of the common mesentery and leaving the intestines with their mesenteries attached around the superior mesenteric, those intestines are therefore free to move in almost any direction. By studying Figure 7, which represents the end of the second stage, and continuing to rotate the small intestine contra-clockwise around the superior mesenteric artery for at least 180 degrees, we will have the condition which I found as represented by Figure 8, which is a sketch showing the anomaly when produced on the cadaver.

As we know, the normal position of the intestinal tract depends on the bulk of the cecum retaining itself to the last in the hernial sac, while the more easily reduced small intestine enters the abdomen first. So, therefore, the factors which would render the small intestine more difficult of reduction, or the cecum easier, or the umbilical orifice so large that they would be reduced with equal facility, would cause an intestinal anomaly of some description.

DISCUSSION

Dr. S. B. Young (Cass City, Michigan): I administered the anesthetic to the patient during the operation Dr. McCoy has just described. He carefully demonstrated to me the position of the ileum, which was, as he described, posterior to the duodenum a short way from the stomach. He neglected to say that a resection of the ileum was discussed but the patient's general condition would not permit it.

Dr. N. J. Malloy (Gagetown, Michigan): It was my privilege to assist Dr. McCoy in the operation he has described and the situation was as he has explained. When I first saw the condition, the intestinal anomaly, I wondered, inasmuch as the omentum had been torn loose, if at the time of the accident the bowels could have been twisted to the position in which he found them, but the fibrous type of channel or tunnel, I think he called it, underneath the duodenum through which the ileum passed, caused me to believe it was some type of an embryological mishap. I have been much interested in his description of the probable embryology of his case.

A NOTE ON BLOOD TRANSFUSION
WITH AN ACCOUNT OF A FATAL REACTION

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Blood transfusion being a relatively simple and safe operation,[2] it is the purpose of this paper to contribute a few facts which it is hoped will enliven interest and increase its uses. The transfusion of blood dates back to ancient, probably as far back as Biblical, times. The Hebrews, Egyptians and Syrians practiced transfusion and there are Greek and Roman writers who speak of having witnessed the operation. The earliest authentic case of blood transfusion is that of Pope Innocent VIII performed in April, 1492. The aged Pontiff was failing fast. In three attempts to rejuvenate him, three young boys were bled to death and their blood transfused.

In the early part of the 17th century, Harvey discovered the circulation, which had its influence on transfusion. Samuel Pepys, in his famous diary, under the date of November 21, 1667, speaks of the college hiring a man for twenty shillings to have sheep blood let in his body. They transfused twelve ounces, which is what they computed would be let in one minute's time by the watch. Again, November 30, 1667, he states he talked with the man, who was well, and willing to have the operation performed again. Elshaltz (1677) published a book on transfusion.

For several hundred years very little appears to have been written; transfusion seems to have fallen into disrepute because of public opinion. Blundell, in 1818, revived the operation in England. He is the first on record to employ syringes, using a single syringe. Later he modified his technic to use multiple syringes. With the knowledge of the circulation, Carrel's direct end-to-end suture of the blood vessels and Crile with his cannula, also with its modification, bring us down to 1909. Later in 1909, Brewer and Liggett suggested the use of paraffin coated tubes. One year later Kimpton-Brown brought forth their method which is in general use today. Linderman (1913) advocated the syringe method, using a special cannula with a number of syringes. Unger (1915) offered another modification, which is still in use today. During this time investigators were working on the chemical side in an effort to prevent coagulation. Hirudin and sodium citrate were found to be most efficient. Hirudin is the active constituent of the oral secretion of the leech. Owing to the expense and inability to get hirudin, sodium citrate seems to have established its place. Hustin, Lewisohn and Weil perfected the use of sodium citrate. So far in the history we have brought forth three definite methods still in use today, namely, Kimpton-Brown paraffin coated tubes, Unger (with its modifications) syringe method and the chemical or sodium citrate method. It is also interesting to note that Lynch[4] divides the history into three periods, namely: (1) Period of Defibrination, 1492-1498. (2) Period of Direct, or Crile Period, 1898-1913. (3) Period of Indirect Transfusion, with the use of anti-coagulants and whole blood, 1913 to date.

With a definite knowledge of the technic, it occurred to someone that some research must be done in regard to the blood. Isoagglutinins have been recognized for thirty years. In 1899, Samuel G. Shattuck recognized isoagglutinins and Landsteiner showed that they existed independent of health or disease and that they followed definite laws. The basis of their scheme of classification was the assumption of two specific isoagglutinins in the serum and two corresponding agglutinogens in the erythrocytes. The agglutinogens and the agglutinins were considered reciprocal, that is, the presence of an agglutinen in the blood precludes the presence of a corresponding agglutinogen and vice versa. Landsteiner first divided his classification into three groups. Jansky, in 1907, reported four groups. Moss, unaware of the work of Jansky, again reported four groups. Moss and Jansky did not number their groups in the same way and much confusion resulted. Moss is the most accepted classification but by prior-

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ity, the classification should be named from Jansky.

In determining the compatibility of the blood of one person with that of another for transfusion purposes, it has been found that there are four types or groups of individuals. To obtain the information desired, the isohemagglutinins (found in all human blood) are utilized. The phenomenon is that of simple agglutination in which the serum of one individual is used against a suspension of red blood cells of another. In carrying out the test for grouping donors or recipients, only two types of sera are necessary, those being Types II and III. The technic will not be reviewed here, as it may be found in any textbook. The test sera should always be fresh. The group of an individual always stays the same; that is, it never changes after transfusion.

Recent investigators have found that not only typing is necessary in the selection of a donor. There are many subclassifications, that is all are not compatible with the universal donor (Moss, Group IV). It is necessary to directly match the blood of the donor with that of the recipient. One should never transfuse the patient until he has found the donor compatible by direct matching. I have found the following method very useful. Collect from the patient and prospective donor about 5 c.c. of blood, place in a centrifuge tube and centrifuge. The serum collects on the top. In another test-tube place a small drop of blood in about 1 c.c. of .9 per cent sodium chloride solution. This gives both serum and cells. Using a platinum loop, place a loop of patient cells and donor serum on one end of a slide, on the other end place a loop of donor cells and patient serum, gently agitate each mixture and watch for fifteen or twenty minutes under the microscope. If any clumping occurs in either mixture, the donor is not compatible and a new donor is looked for.

Brines[11] states from his experience that "the universal use of Group IV (Moss) donor is strongly advocated as a means of preventing accidents and reducing the incidence of post-transfusion reactions." Personally I believe that the use of a Group IV (Moss) donor that is directly compatible with the recipient is a further safeguard. Considerable care should be exercised in the selection of a donor. The related are preferred to the non-related and the young are preferred to the old. If possible, time permitting, we should make an examination of the donor for syphilis, tuberculosis and septic conditions. That is one reason why the related are preferred to the non-related. The donor must be of the same race as that of the recipient. In selecting a donor, the amount to be taken should be considered. Of course, this will also be judged from the size of the donor's vessels, his pulse and any psychical occurrences at the time of the transfusion.

During the transfusion, the operator should watch the donor as well as the recipient and if the pallor of the face changes, the blood pressure lowers, the donor has a rapid thready pulse, stop the transfusion. It has been said that the average donor's blood will return to normal in three to six hours. The same donor may be used again. There are cases on record where the donors have served over fifty times. Personally, I have served as a donor in about thirty cases.

In discussing transfusion some time should be devoted to the indications. There are many classifications. They might best be given as follows:

1. Pathological hemorrhage from some hemolyzing toxin, provided its nature is such that the new blood will not be involved through the same action (as would be in the case of pernicious anemia and in leukemia where transfusion might be distinctly harmful). In this I do not want to say that transfusion is not useful in pernicious anemia, as it has prolonged life in many cases, but is useful only as a palliative measure.
2. Loss of normal blood where the loss of blood has been so great that salt solution would not find sufficient blood corpuscles to supply the function necessary to life.
3. Illuminating gas poison. In this it is especially useful after we have abstracted some of the patient's blood.
4. Pathological hemorrhage such as puerpera, jaundice and hemophilia.
5. Hemorrhage of the new-born.
6. Shock.
7. Secondary anemia prolonged from suppuration.

Powell,[8] of Mayo Clinic, has ably stated that transfusion is indicated in all those pathological conditions in which the blood is so altered in quality and quantity that it is unfit to fulfill its physiological duties.

Many surgeons are now using a prophylactic blood transfusion as a routine measure in poor operative risks. Ward[9] has stated that this should be done in all hospitals, especially teaching the interne to do the typing and matching and even the blood transfusion.

Gatch and Little[5] have found the blood loss in the average panhysterectomy to be 340 c.c., radical breast operation 710 c.c. and nephrectomy 816 c.c. If the patient has a preoperative hemoglobin of 50 per cent and then loses the above amount of blood, the loss greatly endangers the life of the patient. This can be avoided by giving the patient blood before the operation. It is said about 800 c.c. of blood would be needed to restore the condition of the blood to normal in about one hour in such cases as the above.

In my own series, I have used blood in two cases of amputation of the leg and one amputation of the arm. In all cases, I believe the transfused blood played an important part in the pre-operative shock and the recovery.

Very little can be found in the literature in regard to contra-indications for blood transfusion. Most surgeons as well as the internal medicine men have declared that nephritis is a contra-indication. There are many cases on record where transfusion has been used in cases of nephritis with a resulting anuria. In several cases decapsulation has been performed to relieve the condition.

Mosenthal and Ashe[12] have been using blood transfusion in the treatment of Bright's Disease. They state that the contra-indication has been based on the following misbeliefs:

1. Blood transfusion elevates and changes a comparatively harmless hypertension into an alarming one.
2. Transfusion may produce toxic material in the blood which the damaged kidney can not eliminate.
3. Transfusion may aggravate an existing renal lesion and thus cause progressive pathological changes in the kidney and accentuate a renal insufficiency.

They have found that transfusions up to 1,000 c.c. do not increase the blood pressure no matter how high the arterial tension might be. It is either hemolysis or anaphylactic shock that causes the death. They have also found that the transfusion of blood will not alleviate the symptoms of uremia brought on by renal insufficiency, nor do they postpone the onset.

Mosenthal[12] states that the anemia in Bright's Disease is due to diminishing the osmotic pressure of the blood, accompanying the lowering of the blood protein; therefore, transfusion should aid in Bright's Disease. Their indications for the use of transfusion in treating Bright's Disease are:

1. As an aid in treating uremia attendant upon renal insufficiency.
2. Relief of severe anemia.
3. As a means of combating edema by raising the osmotic pressure within the circulation through an increase of the proteins of the blood.

Another unquestionable contra-indication is that of myocarditis. Biesenberger[13] transfused a patient known to have myocarditis with 150 c.c. of blood. During the transfusion the patient felt stabbing pain in the heart region, had cyanosis of the face with rapid extension over the entire body and a rapid pulse. The transfusion was ended; oxygen and stimulants were given. The patient died with symptoms of cardiac insufficiency. At autopsy, the cause of death was established to be due to cardiac paralysis of the heart muscle.

John Fitch London[14] transfused seven cases of diphtheria, complicated with myocarditis; six died and one was released from the hospital in moribund condition, a mortality rate of 100 per cent. He states that blood transfusion appears to be contra-indicated in diphtheria complicated by myocarditis. The same might be said of myocarditis alone.

Some comment might be made on the various methods. The citrate method appears to have been the oldest and most used method on account of its simplicity. Sodium citrate destroys the blood platelets, which play an important part in the coagulation of blood. This is exactly what we do not want in severe bleeding, hence the method has been condemned by many surgeons.

Brines[11] has said "transfusion corrects disturbed circulatory balance; provides increased oxygen transportation to the tissues; increases to a greater extent than do lactates, calcium salts or any other substances, the coagulation of the blood; and tides the patient over a critical period, until his blood-forming centers can take up their burden or acquire the proper resistance. It

combats infection by increasing the general resistance and by bactericidal action of the whole blood. It restores the bulk of the blood, but more especially the red corpuscles; and it is important to note that young erythrocytes are better oxygen carriers than old ones." Then if that be the case whole blood should be preferred to citrated blood.

The editorial[6] writer of the Journal of the American Medical Association has said, "While the citrate method should not be abandoned, the whole blood method, whenever possible, should be substituted for it. However, there is never a time when citrated blood is as good as whole blood." Whole blood may be given by the Kimpton-Brown paraffin tube method or by syringes by the direct method. Every operator is partial to his own method. At present I am using the Schannell method, which proves very satisfactory. Unger, with his method, is most always one of choice and one that I personally like. Of course, there are several dangers one must watch, namely, clotting, thrombus and embolism, air entrance, too rapid or too great transfusion, thus over crowding the heart and infection. By ordinary precaution these may be avoided. Transfusion reactions are and probably always will be our greatest hazards. In the case now reported, death was the direct result of blood transfusion. The patient was not gravely ill before the operation and preliminary tests were made with care.

Mrs. N. was referred to me for transfusion with the following history. She was a woman aged 42, white, and had always enjoyed perfect health until this illness. Five days before transfusion she called her family physician, the occasion being swollen hands, face and feet, accompanying her tenth pregnancy. The urine test showed a 4+ albumin and the patient on the verge of eclampsia. The next day she was delivered of a full term child. Owing to her weakened condition and low hemoglobin, transfusion was decided upon. A brother and his daughter were secured for donors. By direct matching, the brother was found to be incompatible and his daughter compatible. Both the patient and donor were typed and found to be in Group IV. At the end of 125 c.c. the patient complained of being nervous and felt warm; the transfusion was held up for a moment as the symptoms passed away. I proceeded as usual until the end of 250 c.c.; she complained of the same symptoms with pain in the heart and chest. Transfusion was stopped entirely and the patient put back to bed. Respiration became labored, increased and the pulse became very rapid. The patient was given stimulants but immediately went into shock and promptly died. Death occurred thirty minutes after the transfusion was ended.

Unfortunately, the urine specimen was not obtained after the patient died, and the serums were discarded, so rechecking was impossible, a lesson to be remembered.

DISCUSSION

In the case reported death might be due to any one of the following causes:

1. Hemolysis from incompatible blood.
2. Over-crowding the heart and myocarditis.
3. Anaphylaxis.

The bloods matched by direct matching and both were in Group IV. Witts[2] has said that agglutinins are present in such a low concentration that they are missed in preliminary tests and when the blood is transfused may cause death.

The patient was an eclamptic and had a probable toxic myocarditis, hence death may have been attributed to this cause. Nephritis may have been an important factor in death but the patients rarely die sudden deaths.

Anaphylactic reactions are rare and the symptoms are limited to dyspnea, cyanosis, swelling of the face and urticarial rashes. The patient had dyspnea and cyanosis, but none of the other symptoms. Sometimes we get reactions from anaphylaxis varying in severity from simple urticaria to sudden death. Reactions are common in 25 per cent of the citrate method transfusions.

Kordenat[7] has said there are three types of post-transfusion reactions:

1. The immediate or hemolytic.
2. Delayed, apparently not hemolytic but proteolytic.
3. Constitutional or monohemolytic.

Our case fell in the first class or immediate reaction; however, the cause of death still remains unsolved.

SUMMARY

1. Transfusion is a relatively simple and safe operation, but not absolutely devoid of risks even in careful hands.
2. The selection of the donor should be made with great care, using a Group IV donor who is compatible by cross matching.
3. Should save the serum and cells to recheck matching in case of a post-transfusion reaction.
4. Whole blood is preferable to citrated blood.
5. Should transfuse early and not late.

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UNDULANT FEVER*

REPORT OF A CASE

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After twenty-five years of more or less academic interest in Malta Fever, the realization suddenly overtook the medical profession in America that this disease was an important health problem. During 1929 a total of 1,301 cases were found in the United States. In Michigan 107 cases have been reported, most of them during the past three years. This is not a large number when compared to other reportable diseases, but it is large enough to present a definite health problem for our state departments.

It is occasionally difficult to determine the source of infection for any one case. Raw milk and other unpasteurized dairy products, and domestic and farm animals are potential sources and have to be considered.

CASE REPORT

A young boy, age 4, was brought to the office giving a history of fever for the past three months, associated with chills. His mother, a trained nurse, gave the following history: "About three months ago the boy began to have attacks of fever lasting a few days and associated with pain in the abdomen and legs. The abdominal pain was also present between the attacks of fever but to a lessened degree. The attacks of fever and chills have been appearing once or twice weekly and often are separated by only a day or so of normal temperature. He has lost considerable weight during this time, and has had a very poor appetite. The temperature often rises to 104° but its usual level during attacks is about 100°. The bowels are regular, moving once daily. He has had a slight cough which has persisted since an attack of whooping cough one year before."

The mother and father were both living and in good health. There were two other children in the family, both of whom were well. They lived on a small farm but the family milk supply was from a local dairy and was pasteurized. There were no cattle on the farm but the child frequently played at neighboring farms where cattle and domestic animals were kept. The water supply was a well, the water from which had not recently been tested.

The child had always been healthy, except for measles and whooping cough, the last of which left him with a slight cough previously mentioned.

On examination the temperature was found to be 100°, with a pulse of 90 and respirations 24. His body was thin and emaciated. The eyes reacted normally and the pupils were equal. The palpebral conjunctiva was pale. The ear canals and drums were free from signs of pathology. There was no tenderness over the mastoid bone. The tongue was coated and the tonsils were small and no purulent material could be extracted. There was no evident dental pathology and no enlarged cervical glands.

The chest expansion was equal and free. There were no abnormal areas of fremitus or dullness. The breath sounds were clear and no râles were heard. The heart was not enlarged and there were no murmurs or irregularities.

The abdomen was distended as by gas, but there was no abnormal dullness. The spleen and liver were not apparently enlarged but there was some tenderness over the splenic area.

The extremities were emaciated but no swelling or redness of the joints could be found. The knee and elbow reflexes were normal.

He was admitted to Mercy Hospital and the following laboratory reports obtained:

Blood: R. B. C. 3,950,000, W. B. C. 10,200.

Hemoglobin 75 per cent, polymorphonuclear count 69 per cent.

Large lymphocytes 14 per cent, small 13 per cent, eosinophiles 1 per cent.

There were 3 per cent transitional cells.

The red cells were normal in appearance and no malarial organisms were seen.

Urine: The urine was slightly turbid, amber in color and showed a specific gravity of 1.014.

There was no sugar or albumin found and the microscopic examination was negative for casts.

Agglutination tests against B. typhosus, paratyphosis "A" and "B" and B. abortus were all negative. The feces examination was negative for the typhosus group. Blood cultures were negative. A tuberculin skin test was negative with 0.1 c.c. of 1-10,000 O.T.

Undulant fever appeared to be the most likely diagnosis in spite of the negative report obtained from the agglutination test and blood culture, so more blood was collected and sent to the laboratories of the Miami Valley Hospital at Dayton, Ohio, where considerable investigation into this condition has been carried on under the direction of Dr. W. M. Simpson. He found the agglutination test positive against B. abortus and suggested as a diagnostic aid a skin test with which he had been working, stating that the agglutination test is not always reliable.

*Read before the November, 1930, meeting of the Muskegon County Medical Society.

One-tenth cubic centimeter of a saline suspension of heat-killed B. abortus organisms was injected intradermally which resulted in a definitely positive reaction two days later.

Because of the regularity which which positive skin tests were obtained by Dr. Simpson I decided to treat this case as one of undulant fever and so began injections of a vaccine made from heat-killed Brucella abortus standardized to two billion c.c. These injections were given every third day in increasing doses up to one cubic centimeter.

After seventeen days the temperature returned to normal, and has remained so ever since. During this time the other symptoms also disappeared, and at a subsequent examination several months after treatment he was found to be perfectly healthy.

TEMPERATURE RECORD DURING TREATMENT

Date	*Vaccine*	8	12	4	8	
Feb. 23	¼ c.c.	99	99.2	99.4	99.4	
Feb. 24		99.4	99.2	99.4	99.4	
Feb. 25		99	99.6	99.4	99.2	
Feb. 26	¼ c.c.	98.4	98.8	99.2	99.6	
Feb. 27		100.6	101	100	100.2	
Feb. 28		100.2	99.6	99.6	99.2	
Mar. 1	½ c.c.	98.8	99.4	99.4	99.6	
Mar. 2		99	99.6	100	100.2	
Mar. 3		99.2	99.8	100.4	100.6	
Mar. 4	½ c.c.	100	103	102.6	101	Chills
Mar. 5		100	104.6	103	102	
Mar. 6		99	98.8	99	99.6	
Mar. 7	1 c.c.	98.8	99	99.8	100	
Mar. 8		99.2	99.8	100.8	100.8	
Mar. 9		100.2	100.4	100.4	101	
Mar. 10	1 c.c.	99.8	99.6	100.4	100.8	
Mar. 11		99	99.2	98.8	98.6	
Mar. 12		98.2	98.2	98	98	
Mar. 13	1 c.c.	98	98	98.4	98.4	
Mar. 14		98.4	98.6	99	98.8	
Mar. 15		98.2	98.4	98.4	98.8	
Mar. 16	1 c.c.	98.2	98.4	98.4	98.6	
Mar. 17		98.2	98.6	98.6	98.2	
Mar. 18		98.2	98.6	98.6	98.2	
Mar. 19	1 c.c.	98.2	98.4	98.8	98.8	

DISCUSSION

It is important that we acquaint ourselves with the symptoms and diagnostic points of undulant fever because of the increase in the amount of this infection found during the past few years. There has been a tendency of late for many mothers to use raw milk, thinking it to be more healthy. The source of raw milk is often questionable and if this practice continues we are going to see more and more undulant fever.

The source of infection in this case is undetermined. The family was using pasteurized milk from the largest dairy in the community, and they maintained no farm or domestic animals. However, the child habitually played at nearby farms with neighbor children and could easily have contracted the infection from raw milk served to it during these visits. Another source to be considered in this case is the domestic animal; although not the usual source, it is capable of carrying the organism. It is because of the more or less limited trial which has been given the vaccine therapy suggested by Dr. W. M. Simpson that I am reporting this case. The fact that the temperature returned to normal after seventeen days of vaccine treatment, after having been so high for three months, suggests that this form of treatment may have merits.

PUERPERAL INVERSION OF THE UTERUS*

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The infrequency of inversion of the uterus attaches to the condition sufficient interest to justify recording of all cases observed. In fact it is often referred to as a medical curiosity.

The condition is considered rare. Authors vary as to its incidence. Some report an incidence of 1:10,000—others of 1:400,000. According to Beckman, not a single case occurred in 250,000 labors at St. Petersburg Lying-in Hospital, while Madden noticed it only once in 190,000 deliveries in Dublin (Williams). Hasselhorst saw one case in 28,000 labors over a period of twenty years. The consensus of opinion places the incidence at 1:200,000.

Before it is possible for an inversion of the uterus to occur, there must be a relaxation of a portion of the uterine wall which is surrounded by normal muscular activity. This point of relaxation in childbirth is the site of the placenta, and in the non-gravid uterus it is the center of a new growth. These growths are usually found to be either pedunculated myoma or sarcoma. Any form of traction from below or pressure from above will therefore start an inversion by depressing the relaxed portion of the uterus, which is at once acted upon by the surrounding muscles, whose contractions gradually increase the displacement until it becomes more or less complete. Sometimes the entire

*Read at the December, 1930, meeting of the Shiawassee County Medical Society, at Owosso, Michigan.

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uterine wall may be relaxed and an inversion may occur from continued traction or pressure. The puerperal causes are: a short cord; early traction upon the cord; fundal attachment of the placenta; delivery in the erect posture; a rapid labor; injudicious pressure or palpation over the fundus of the uterus; violent intra-abdominal pressure; and finally, spontaneous inversion without known cause though probably due to paralysis of the cervix.

In acute inversion, in the absence of profound shock, hemorrhage, or sepsis, an attempt should be made to reduce the inversion immediately after its occurrence as delay increases the chances of failure and death. If there is extreme shock, the safest procedure is to first treat the shock. Blood transfusion produces miraculous results in these cases, both before and after reduction. If obvious signs of sepsis are present the inverted uterus should be left untouched (save for removal of placental remains) and vaginal douches given daily until all discharge ceases and the uterus becomes firm. Sepsis inside a soft involuting uterus, lacerated and contused by reduction, ends in septicemia, parametritis, phlegmasia dolens with death or a protracted convalescence. It is well known that involution will take place whilst the uterus is inside out (Phillips) and in a number of cases spontaneous reduction has occurred during expectant treatment.

However in the absence of shock or the above mentioned condition, immediate reduction should be attempted. The technic of the procedure is as follows: The patient is anesthetized—placed in dorsal position and the reduction of the displaced fundus made by the hands, as instrumental taxis is not indicated in acute cases. If the placenta is attached it should be removed immediately. The inverted body of the uterus should be replaced in the vagina. Then using the fingers of the right hand as a cone or in some cases the doubled hand or fist, pressure should be applied in the direct center of the fundus in the axis of the vaginal canal, while the fingers of the left hand make counter pressure from above through the abdominal wall upon the cervical rim of the collar. As a result of these manipulations the fundus slowly passes back through the cervical rim and the uterus is eventually replaced.

After reduction, it is optional, depending on conditions during delivery, whether or not to use hot intra-uterine douches. The case is now treated as one of simple uterine inertia, i.e., stimulating of relaxed uterine muscles by hot intra-uterine douches-pituitrin-ergot.

In some cases it will be found impossible to reduce the uterus by the above described method and a more gradual reduction must be employed. The best procedure under these circumstances is to push up only a small portion of the inverted uterus at a time with the finger near the cervical rim, continuing the manipulation until the entire mass is replaced (Ashton).

In chronic cases it usually requires operation to effect reduction. Various types of operation are used, i.e., Spinelli; Kustner; Hysterectomy. These will not be described here.

Due to the generosity of one of my colleagues, to whom the case properly belongs, I am reporting a case of acute puerperal inversion of the uterus.

PUERPERAL INVERSION

Patient, Mrs. M. C., age 20, married six years, Para III. Previous history negative. No serious illnesses. Family history negative. No miscarriages or abortions. First child normal birth. The second was taken with instruments because of an abnormal position. The present pregnancy had been entirely normal and without symptoms. Urine and blood pressure normal throughout course. Pelvic measurements normal. General physical examination essentially negative.

Patient entered hospital at 10 p. m., August 29, 1929. She was not having labor pains but had entered because the membranes had ruptured and a breech presentation diagnosed. She was surgically prepared, given an enema, and put to bed. At 7:00 a. m. on August 30, her pains had become severe and practically continuous. An examination showed position to be an incomplete breech—single footling. Pains continued and by 10:00 a. m. the cervix was fully dilated, the buttocks well down on the perineum, and the left foot and leg protruding from the vagina. At this time she was anesthetized with chloroform and delivered of a normal, living, 9½ pound girl by means of the usual technic. There were no lacerations.

The patient was allowed to react and in about twenty minutes began to have sharp pains in the lower abdomen. Moderate Credé without cord traction was used in an effort to conclude the third stage of labor. The patient then experienced a very severe pain and the placenta appeared at the vaginal opening attached to a large tumor-like mass. Examination revealed the true nature of the mass—a completely inverted uterus with an adherent placenta attached squarely in the fundus.

After the acute pain, however, the patient was entirely comfortable. She stated that she "felt fine." Pulse was 115 and of fair quality. She had been surgically prepared for delivery and the chances of sepsis were slight.

Accordingly, we elected to attempt reduction at once. She was again anesthetized, redraped with sterile goods, and the adherent placenta freed from the uterine wall by finger dissection and with con-

siderable difficulty. Only moderate bleeding followed. Hot saline packs were wrapped around the uterus, after which bleeding was very slight. The inverted body of the uterus was then copiously irrigated with hot saline solution and a final inspection made for adherent bits of placenta and membrane.

Finding the surface clean, the uterus was replaced in the vagina. The right fist was placed against the fundus and the fingers of the left hand pressed firmly against the cervical rim through the anterior abdominal wall. Steady pressure was then used on the fundus in the axis of the vagina. In five minutes beginning invagination was felt at the fundus. Pressure was continued until a depression the size of the fist was formed and the reduction was completed by rolling the inverted edge of the uterus back between the thumb and forefinger of the right hand. The left hand gave constant aid from above. All manipulations were done slowly, carefully, and with steady pressure to avoid tearing the soft uterus. One ampule each of pituitrin and ergot were given and within ten minutes the uterus was firm and in normal position.

Following the operation the patient showed but moderate shock, which responded immediately to the mildest measures. On the third day post-operative she ran a reactionary temperature of 102 degrees with a pulse of 120. There was a profuse vaginal discharge and daily hot saline douches were given. Beginning the fourth day her temperature began to recede, the discharge less in quantity, and the pulse slower in rate and of better volume. By the sixth day post-operative, the pulse and temperature were normal and continued so from then on. She was discharged from the hospital on September 9, 1929, eleven days following delivery. She remained in bed for one week following her return home. The baby was put to the breast the fourth day post-operative and was nursed from that time until the 11th month.

Pelvic examination at a later date showed normal involution of the uterus and otherwise negative pelvis. Patient states that she has been in good health since. Menstruation began two months following delivery and has since been normal in time of occurrence, length and amount of flow.

CONCLUSIONS

1. Puerperal inversion of the uterus is a very rare condition.
2. The predisposing causes are inertia of the uterus—pressure from above—and traction on the cord from below.
3. Shock is the leading symptom and when this occurs after the third stage of labor, uterine inversion should be borne in mind.
4. In the presence of marked shock or obvious sepsis, expectant treatment should be followed.
5. In the absence of shock or sepsis, immediate reduction should be attempted.
6. Manipulation should be manual and all manipulations performed with utmost care to lessen the danger of tearing the uterine wall, thus increasing the danger from hemorrhage and sepsis.

BACTERIOPHAGE TREATMENT OF STAPHYLOCOCCUS INFECTIONS

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Bacteriophage active against staphylococci has been given a very extensive clinical trial during the last four years, and while the results have been for the most part satisfying, there exists as yet no acceptable clinical evidence upon which to base a claim for recognition of this product as a therapeutic agent. Having a limited amount of clinical material available we have attempted during the past year to accumulate data bearing on the effect of bacteriophage treatment as compared with (1) extract broth, and (2) bacterial protein prepared by the action of bacteriophage, and while it is evident that the number of patients is limited, we feel that inasmuch as no similar study has as yet been reported the results are of some interest and value.

The material used in treatment was prepared at the Michigan Department of Health and consisted of: 1. Staphylococcus bacteriophage, a filtrate of a broth culture of staphylococcus lysed by bacteriophage, and containing the lytic agent in high concentration. 2. The same material as No. 1 except that the bacteriophage was removed by absorption with blood charcoal. 3. Beef extract broth containing 3 g. of beef extract and 10 g. of peptone per liter.

These products were put up in suitable vials and labeled only by numeral and letter in such a manner that during the treatments and the recording of results the nature of the product was known only in the laboratory where prepared. In other words the clinical interpretations were not influenced by a knowledge of the nature of the material used.

TABLE I

No. of patients treated with:	++++	+++	++	+	—	Total plus	No. of Patients	Index
Broth	3	1			7	15	11	1.36
Protein	4	1	3		2	25	10	2.5
Phage	15	7	3	1	7	88	33	2.66

The patients were students at the University of Michigan, reporting to the University Health Service for treatment of furuncles or acne. Two subcutaneous injections of 2 c.c. were given at 24 hour intervals. In some instances only a single inoculation was administered, in others three, but such variations were taken into account in the interpretation of the results. Fifty-four patients were thus treated and in so far as was possible the results were recorded within 24 to 48 hours and again after six months. Thus it was possible to observe both the immediate effect, *i.e.,* the condition of lesions existing at the time of treatment, and the immunity produced; *i.e.,* the recurrence of the condition.

The results of these treatments were analyzed by several individuals independently in the following manner. The reports were distributed in groups according to the degree of improvement:

++++ Excellent result—rapid resolution of existing lesions and no recurrences during six weeks or more.

+++ Good result—lesions subside rapidly but less rapidly than ++++. No recurrence.

++ Fair result—lesions clear up within 3 to 5 days but recurrences within four to six weeks.

+ Poor result—no local effect, but freedom from new lesions for brief period.

— No evidence of effect of treatment.

Following this each group was divided into three classes according to the treatment, and the number of ++++, +++, etc., for each agent determined. The total number of pluses was determined and divided by the number of patients which gave an index usable for comparison. Table I illustrates the method of analysis.

The reports were thus classified and analyzed by several individuals working independently and without a knowledge of the type of treatment used. The results are given in Table II.

The comparative value of the different treatments is shown in Chart I.

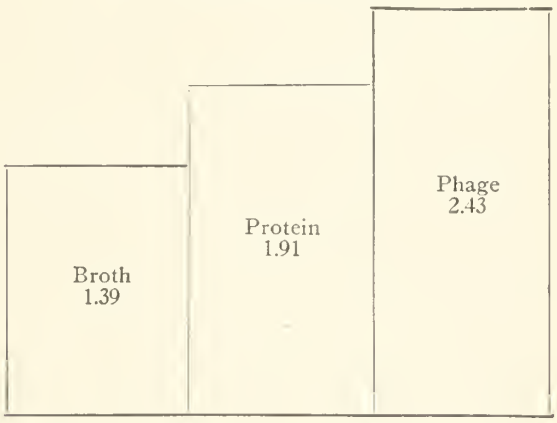
It is obvious that these results are based upon the clinical observations, which could easily be subjective. It should be emphasized, however, that they were made without a knowledge of the nature of the various preparations used and that every effort was made to give a purely objective report of the facts observed. It is also obvious that several other methods of treating controls might have been adopted as well as other methods of analysis of the reports. We feel, however, that, while our series is too small to justify conclusions, the results are certainly suggestive and deserving of consideration.

TABLE II

	Indices					
	1.	2.	3.	4.	5.	Av.
Broth	1.36	1.27	1.67	1.73	.9	1.39
Protein	2.5	2.25	2.1	2.3	.4	1.91
Phage	2.66	2.61	2.0	2.78	2.10	2.43
Total plus	6.52	6.13	5.77	6.84	3.40	5.73

CHART I

COMPARISON OF RESULTS OF TREATMENT WITH BACTERIOPHAGE, BROTH, AND BACTERIAL PROTEIN



The observations on the effect of the lysed staphylococcus proteins in the absence of phage are particularly significant in that they support the contention that it is the proteins which give to bacteriophage preparations their effectiveness. Here again the evidence is meager but none the less suggestive. Further studies along these lines await the clinical material necessary for their development.

UROGENITAL TUBERCULOSIS*

A MODIFIED VERNES TEST AS AN AID IN DIAGNOSIS

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In the past repeated attempts have been made to arrive at a satisfactory blood reaction for tuberculosis. Complement fixation tests have been disappointing, blood nitrogen studies are valuable but not diagnostic. Professor Arthur Vernes, who is in charge of the Prophylactic Institute in Paris, brought out in 1923 a resorcinol test which seems to have much value. For several years the Prophylactic Institute has been working on diagnostic tests in syphilis, tuberculosis, and cancer. The Vernes Test for syphilis is a serum flocculation test with perethynol and compares favorably with the Kahn, Meinecke, Sachs-Georgi and other tests for syphilis. Extending this method to tuberculosis he has devised a flocculation test for this disease with the use of 1.25 resorcin solution as reagent. The test is based upon the phenomenon of the periodic curve produced when blood serum is combined with certain reagents. The chief apparatus of the test as carried out by Prof. Vernes is the photometer of Vernes, Bricq and Yvon, which consists of a metal box fitted with lenses, prisms, surcharges and a wedge of fumed glass. It is designed to measure the loss of light from a beam passing through the liquid under observation, enabling the operator to read with great accuracy the degrees of flocculation, as a direct reading of milligrams on a calibrated scale attached to the movable wedge of fumed glass gives the precise measurement of the amount of absorption of light for 1 cubic centimeter of liquids.

Procedure of test is as follows:

10 c.c. blood is obtained by venopuncture in usual manner (best at least 3 hours after meal).

Tube is stoppered and refrigerated over night (if blood is placed in an inclined position at room temperature for ½ hour before refrigeration, clot contraction is more satisfactory).

After refrigeration, serum is decanted and centrifuged to free of cells.

Two tubes are set up for each serum, one to act as check against the other, and 0.6 c.c. of serum is placed in each of these tubes.

(Vernes measures with a mechanical syringe or rheometer.)

The reagent, 1.25 per cent aqueous solution of resorcin ($C_6H_4(OH)_2$) is placed in a small glass beaker, and the control reading is made—all liquids should be of same temperature, 18 to 25°C.

Place 0.6 c.c. of reagent into tube containing serum—invert several times and transfer to photometer. Read at once and then return tube to rack and close with rubber stopper.

Incubate for 4 hours in air or water, both at a constant temperature of 20°C.

Reread in photometer.

Subtract first reading from second reading.

The difference is the degree of flocculation caused by the reaction between the reagent and the serum and is recorded in milligrams per one cubic centimeter of liquid.

Having the opportunity of taking bloods for Kahn tests on a large number of patients, I thought it a good opportunity to run this similar test for tuberculosis. Mr. Childs, the serologist of the Department of Health Laboratory, suggested performing the readings similar to Kahn test readings, namely negative, plus minus, one plus, two plus, three plus and four plus. We were favorably impressed by the results obtained and decided to further check our cases to see whether or not this modified test was of value. In reviewing the literature I found that the only work done in this country was either by or under the direction of Miss Adelaide B. Baylis of New York and in a personal communication from her received a reprint of a similar modified test that she had worked out and reported in the Proceedings of the Society for Experimental Biology and Medicine, 1928, XXV, 482. Vernes himself states that a normal subject gives a reading varying from 0 to 15 on the photometric scale, a tuberculous one a reading over 30. Hence there is an intermedi-

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ary zone where normal sera produce much flocculation and a tuberculous serum may only produce slight flocculation. Vernes includes in this area beginning chancre cases, certain cases of advanced carcinoma and some severe septicemias. Vernes states that where the reaction is negative, that is under 15, the case is not recorded, but where the reactions verify tuberculosis in subjects in which the disease is unrecognized, serology takes precedence of the clinical evidence. It thus would appear that while the use of the photometer is essential for accurate experimental data the readings extend over such a large series of numbers that they must be studied in groups or degrees of positivity. Miss Baylis has checked a large number of sera with the photometric and the modified method of readings and the correlation is fairly consistent. In a recent article she states as follows: "It has been our experience that non-tuberculous sera give no precipitate, and minus and plus minus correspond to Vernes readings below 20. Quiescent tuberculosis during periods of slight activity gives plus and 2 plus readings corresponding to Vernes figures from 20-30. Active tuberculosis gives readings of 3 plus and 4 plus, corresponding to Vernes figures above 30." The chief point in either method seems to be to read at once as soon as reagent is mixed and to subtract this from a reading made at the end of 4 hours after a constant temperature of 20°C. The chief value of the photometer is that it eliminates the factor of personal error and that it gives much finer gradations. These are of extreme necessity in prognosis and are essential in some of the applications of the test as made at the Prophylactic Institute; such as (a) to discover concealed forms of tuberculosis, (b) to determine the condition of an infection under or after sanatorium care, (c) to follow the evolution and prognosis of collapse therapy, and so on. However, for purely diagnostic purposes the higher readings or in the modified method those over 2 plus are of definite value. The test is so simply run that many possible chances for error, as in the use of hemolytic systems in complement-fixation tests, are eliminated. The reagent itself is a pure chemical substance of known standardized quality and hence less likely to permit of variation as that of an extract from a culture of tubercle bacilli, as is necessary in complement-fixation work. Of course the test is more reliable in the hands of experts, as at the Prophylactic Institute, where many thousands have been run and where it is in regular daily use, but as modified by Baylis and ourselves is simple enough to be of value to anyone who uses it in good faith.

In our studies we have not attempted to amass large numbers of cases for statistical purposes. We have rather been interested in the results obtained in individual cases that were under our control. I have personally been interested in the results obtained in urogenital cases with or without active clinical symptoms. In the French Journal D'Urologie for June, 1928, Legueu and Vrignaud reported a series of 44 patients divided into 3 groups. First group: Patients in whom the diagnosis of tuberculosis was confirmed by microscopical examination either by discovery of Koch's bacillus in urine or by pathological examination. This group included eighteen cases of renal tuberculosis and eight cases of tuberculous epididymitis. The reaction was positive in seventeen of eighteen renal cases and six of the eight epididymitis cases.

In the second group were eight cases—seven renal tuberculosis and one tuberculous vesiculo-prostatitis. The resorcin reaction was positive in all eight cases.

In the third group there were ten cases, six of colon bacillus pyelonephritis, one case of cyst of the epididymus, one case of simple adenoma of the prostate, one case of chronic urethritis due to gonococcus, and one case of renal calculus. In these ten cases the reaction was negative in nine cases and only suspicious in one case of pyelonephritis. In the total number of cases the reaction coincided with clinical findings in 90 per cent of cases. This corresponds well with a series of cases of pulmonary tuberculosis checked by Uffoltz and Jacquot which gave 91.5 per cent and Prunell 92 per cent of results coinciding with ultimate clinical findings.

I have attempted to find out if the test as modified and simplified by us was of equal value in diagnosis of urogenital tuberculosis. We have classified our cases for comparison into four groups. In the first group we placed those cases of proven tuberculosis, either by the finding of tubercle bacilli in the urine or by pathological tissue diagnosis. Of these there were thirteen cases.

The next group were of cases where we believed no tuberculosis existed, that is,

GROUP I. RESULTS OF VERNES TESTS CASES OF PROVEN UROGENITAL TUBERCULOSIS

Case No.	Vernes Readings				Tubercle Bacilli Found	Other Data
	1st	4 Hr.	O-Nite	Final		
I	—	3+	4+	4+	Rt. Ureter	TBc. Epididymis removed.
II	±	1+	3+	3+	Both Ureters	
III	±	2+	4+	4+		TBc. Kidney removed.
IV	±	2+	3+	3+		TBc. Epididymis removed.
V	—	3+	4+	4+		TBc. Kidney removed 8 mos. ago.
VI	—	3+	3+	3+	Both Ureters	
VII	—	—	—	—	Bladder Urine	Pyelograms and Function Neg.
VIII	—	1+	2+	2+	Bladder Urine	Pyelograms and Function Neg.
IX	—	±	3+	3+	Bladder Urine	
X	—	—	3+	3+	Bladder Urine	Guinea Pig Neg. Pyel. and Function Neg.
XI	—	—	4+	4+	Bladder Urine	Also advanced TBc. of Lungs.
XII	1+	4+	4+	4+		Tuberculous Epididymis removed.

GROUP II. RESULTS OF VERNES TESTS CLINICAL TUBERCULOSIS ABSENT

Type of Case	No. of Cases	Results of Tests					
		—	±	+	2+	3+	4+
Acute Gonorrhea	16	13	3	0	0	0	0
Syphilis Primary	3			1		2	
Syphilis Secondary	10	5	1			3	2
Gon. Epididymitis	4	1	2	1			
Non-Specific Ulcer	2	1	1				
Non-Tub. Asthma	1		1				
Latent Syphilis	15	10	3	2			

GROUP III. RESULTS OF VERNES TESTS

Type of Case	No. of Cases	Results of Tests					
		—	±	+	2+	3+	4+
Pregnancy	7	4				1	2
Diabetes	3	2		1			
Advanced Malignancy	3	1			1		1
Acute Infections with High Fever	4			2	1	1	

GROUP IV. VERNES TESTS

Case No.	Name	Vernes	Stained Smears of Urine	Guinea Pigs	Urograms	Culture	Clinical, History and Remarks
1	C. W.	4	Neg.	Neg.	Neg.	Neg.	Slight hematuria, t.b.c. found in urine at another hospital.
2	J. D.	4	Neg.	Neg.	Neg.	Neg.	Perinephritic abscess drained, nephrectomy later—path. report interstitial nephritis suggestive of tuberculosis.
3	E. P.	3	Neg.	Neg.			Prostate irregularly enlarged. P. smear neg. for t.b.c. and g.c.
4	J. A.	1	Neg.	Neg.	Neg.		Bilateral hematuria—ulcerative colitis
5	C. C.	2					Swelling upper pole of epididymis 3 weeks after injury—Gc. 7 yrs. ago—going to Ford Hosp.
6	F. C.	2	Neg.	Neg.	Neg.	Neg.	Quit work account backache and dysuria at Rec. Hosp. 10 days then to H. K. Hosp.—urinary symptoms disappeared—No Pulm. T.B.C.
7	Sad	4	Neg.				Acute retention, prostate irreg. enlarged and hard—vesicles enl. and hard—bladder very intolerant—rt. epidid. enlarged and hard. Sent to Eloise as Ca of prostate.
8	CC2	1					Fistulous tract in scrotum attached to epididymis of 3 mos. duration has had g.c.
9	E. C.	4	Neg.	Neg.			Left kidney drained for perinephritic abscess—had had rt. nephrectomy 18 yrs. previous—still has frequency—nocturia 4x—minimal T.B.C. of lungs.
10	C. D.	1	Neg.	Neg.	Neg.		Nephrectomy 2 yrs. previous—still has frequency ev. ½ to 1 hr.

there were no clinical symptoms of such. This group included thirty-five cases, of which twenty were cases of acute gonorrhea, ten cases of syphilis, five cases of genital ulcers, etc.

The next or third group we took seventeen cases of diseases where we thought various blood changes occurred owing to other conditions. In this group there were three cases of advanced carcinoma, three cases of diabetes, seven of pregnancy, etc.

In the fourth group we placed ten cases of suspected tuberculosis where the positive diagnosis as finding of tubercle bacilli could not at that time be determined. This group included three cases of epididymitis.

It will thus be seen that in the first group where tuberculosis was proven to exist there was but one case that was negative to the Vernes test and bacilli were found in the urine. This case was absolutely symptom-free at the time of this reading and at a previous test taken upon admission gave a two plus, so that the possibility of a healing tuberculous process might be considered or that tubercle bacilluria without lesion is possible. The other cases were all two plus or more.

In the second group of negative tuberculosis cases there were only seven of fifty-one cases that showed anything more than one plus and these were all primary or active secondary syphilis cases. Professor Vernes states that primary and active secondary syphilis may give a false positive, but notice that of the fifteen latent syphilis cases, none gave more than a one plus reaction.

In the third group the results are more variable. However, in all these cases the presenting symptoms were suggestive of other disease and in some of them coexistent tuberculosis was not absolutely ruled out. Inasmuch as the test is not a specific one it will only be natural to find some other conditions that may occasionally give a false positive. The reaction is also now being studied in relation to these false positives and the originators insist that if these tests were repeated a variable result would be obtained, while only in tuberculosis would a repeatedly positive result be obtained. Further study will no doubt reveal the limitations of the test.

In group four is I believe where the test will prove to be of great use. These are cases in which urogenital tuberculosis was suspected, and in several instances, long after the report of the Vernes test, tuberculosis was verified by the usual method. These cases will have to be taken up individually to be of any value.

A careful study of these four groups of cases allows us to draw the following conclusions regarding this modified resorcinol test.

1. It will thus be seen that although this reaction is not entirely specific it seems to have promise of much value. It should be of value in differentiating a tuberculous from a gonococcus or pyogenic epididymitis, a renal tuberculosis from a pyelonephritis of obscure origin, etc.

2. It seems to be an index of the activity of the tuberculous process and therefore should be a valuable guide as to the time for nephrectomy or other operative interference during sanatorium care.

3. The test is so simply run that it should be a part of a health examination for tuberculosis in that a highly positive test without other findings is suggestive enough to recheck the case and a completely negative test will practically eliminate the necessity of considering tuberculosis as a factor.

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INTRAVENOUS SODIUM AMYTAL, WITH REPORT OF A DEATH

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Having been active in the employment of sodium amytal since its inception as a pre-anesthetic hypnotic, either as the operating surgeon or the observant administrator of the drug, the writer wishes to present some observations on its uses.

Believing that the accidents and deaths occurring with new and experimental methods and drugs should be boldly broadcast, in the hope that from our experiences others may profit, and not suppressed in order to maintain the appearance of clean records, is the reason for the following detailed report of a death in this series of sodium amytal cases.

A wide variety of cases are included in this group, such as: Operations on the biliary tract, stomach, bowel, genito-urinary tract, thyroid, nervous system, head and neck, bones, joints, amputations, hemorrhoids, and plastics.

An effort was made in this series of cases to use doses of sodium amytal sufficient to produce surgical anesthesia or hypnosis requiring a minimum of or no supplementary anesthesia. Inasmuch as the lethal dose of the drug for man is unknown and as the dose of 25 mg. per kilo of body weight is estimated to be maximum, it was deemed advisable to remain well on the safe side by using 20 mg. per kilo. Experience with the drug had convinced us that there is no satisfactory means of controlling the anesthetic after once administered intravenously and that no true antidote is known. The supplementary anesthesia used in all cases was nitrous oxide with as high a component of oxygen as possible to maintain the proper relaxation.

Of the eighty-eight cases receiving the intravenous sodium amytal, twenty-one cases required no supplementary anesthesia at all. The average length of operations performed was 72 8/9 minutes. The average length of supplementary anesthesia used in sixty-five cases was 58 8/13 minutes. Thus the average decrease in supplementary anesthesia necessary in sixty-five cases was 24 minutes.

Each case was carefully checked as to the blood pressure changes during the administration of the drug. Using the blood pressure findings before giving the hypnotic as a control and checking the findings after 4 c.c. and 10 c.c. had been given, it was found that the average drop in systolic blood pressure was 28⅓ mm. The extremes in blood pressure findings were taken in compiling this average.

The average length of time before the patient reacted in 83 cases, determined by the ability of the patient to drink, was found to be nine hours.

The postoperative complications in the group were as follows: Ten patients were irrational, disoriented, restless, and even to the point of delirium within an hour after return from the operating room. The majority of these relapsed into a state of profound sleep on the administration of ¼ grain morphine sulphate. There were one massive collapse of the lung, two hypostatic pneumonias and two bronchopneumonias.

DETAILS OF FATAL CASE

The following is the detailed report of the death occurring from the use of intravenous sodium amytal.

The patient was a female, age 36 years, negress, married and a housewife. Patient first examined in June, 1930, complaining of abdominal pain. The onset of the present illness began two weeks previously with nausea, vomiting, and pain in both lower abdominal quadrants. There had been low back pain and a moderate vaginal discharge. Menses had been regular with an intermittent metrorrhagia during the last two weeks with a profuse flow lasting three days just prior to examination. A gradual suprapubic enlargement of the lower abdomen had been noted for several months. There had been no pregnancies, stillbirths, or miscarriages.

Examination: Patient presented a well developed and nourished adult negress obviously in pain but not acutely ill. The head and neck were essentially negative. Lungs were clear throughout with no areas of dullness, flatness, and there were no râles. Heart not enlarged to percussion, sounds regular, good quality, and no murmurs. B. P. 130/80. The abdomen was slightly distended, panniculus about six cm. There was a firm, nodular tumor mass arising from the pelvis and extending half way to the umbilicus. Vaginal examination revealed a small cervix pointing in the long axis of the canal and in contiguity with the nodular suprapubic mass on bimanual examination. Adenexa not enlarged but tender. Weight, 156½ pounds.

†Dr. Amadon is a graduate of the University of Michigan Medical School 1926; internship, University Hospital. He was assistant resident in Surgery, University Hospital; Instructor in Surgery, University of Michigan Hospital and Medical School, 1928 to 1930. At present he is on the staff of Mercy Hospital, Monroe, Michigan.

Laboratory examination revealed a negative Kahn and urine. Blood studies: Hgb. 80 per cent. R. B. C. 4,200,000. W. B. C. 2,400.

Diagnosis: Uterine Fibroids. Chronic Pelvic Inflammation.

Preoperative preparation: Morphine Sulphate gr. ¼. Atropine gr. 1/150. Anesthetic: Sodium Amytal (20 mg. per kilo). Dosage for required weight 14.2 c.c. of 10 per cent solution.

The drug was given at the rate of 1 c.c. per minute. After injection of 6 c.c. patient's respirations became slow, somewhat shallow, as though in sleep. Pulse regular, 98 per minute, good quality. B. P. 72/30. After administration of 13 c.c. respirations suddenly stopped. Pulse remained of fair quality, 100 per minute. Artificial respiration was immediately given together with caffeine sodium benzoate, 7½ gr. in 3 doses, as well as ephedrine sulphate in 25 mg. doses. Not a single respiratory movement could be stimulated at the end of one hour's artificial respiration, though the heart beat continued throughout that time.

This, apparently, was a sodium amytal death in a young, physically sound adult, death occurring after administration of 1.3 gms. of the drug or on the basis of 19.5 mg. per kilo; a dosage presumably well within the lethal limits.

Although autopsy permission could not be obtained, the evidence seems conclusive of a respiratory failure or paralysis due to sodium amytal. Thus the mortality from the drug in 20 mg. doses per kilo of body weight in this series of 88 cases is 1.149%.

CONCLUSIONS

1. Complete surgical anesthesia with large doses of sodium amytal intravenously, without supplementary anesthesia, cannot be obtained with any uniformity.
2. The production of complete surgical anesthesia with sodium amytal in large doses is dangerous.
3. Small doses of sodium amytal supplemented with nitrous oxide and as high a component of oxygen as possible, which gives a more certain control over the drug, is the safest method for its use.

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Commissioner
LANSING, MICHIGAN

ACTIVITIES OF 1930

The organization of county health departments has been one of the outstanding activities of the Michigan Department of Health for the year 1930. Three counties have been added to the list of those having full-time county health departments under boards of supervisors. There are now eight health departments operating under direct county control.

Two new consolidated district health units have been organized during the year by the Children's Fund of Michigan. There are now four such district departments, comprising a total of sixteen counties. Counting Menominee County, which, of course, has a child health demonstration rather than a regular county health department, this brings the total of Michigan counties having organized health work on county basis up to twenty-five. The counties under the district or county plan are Alcona, Alpena, Antrim, Charlevoix, Cheboygan, Crawford, Emmett, Genesee, Iosco, Isabella, Kalkaska, Kent, Menominee, Midland, Missaukee, Montmorency, Oakland, Ogemaw, Oscoda, Otsego, Ottawa, Presque Isle, Roscommon, Saginaw and Wexford.

The minimum budget recommended for a county health department is $12,000 and the minimum personnel recommended consists of a qualified full-time health officer, two public health nurses and a clerk. The agencies giving financial assistance to the counties are the Rockefeller Foundation, the U. S. Public Health Service, Children's Fund of Michigan, and the state.

Inextricably bound up with the problem of furnishing an adequate health service is that of developing trained personnel. A training station for health officers and public health nurses is maintained by the State Department of Health in coöperation with the Rockefeller Foundation at Lansing. The course lasts for three months. During the first part of the course, the trainees receive instruction from the heads of the divisions of the State Department of Health; during the second part they are given practical experience in the field. The course is limited to five physicians and five nurses and the entrants receive a stipend to aid them in bearing expenses while in attendance.

Work of the Bureau of Rural Hygiene consists of the establishment and supervisory control of the county health departments, and plans of the bureau for 1931 include the establishment of new departments and assistance to those already organized. Even with twenty-five counties under organ-

ized health supervision, there are over two million people in Michigan without adequate health service.

RECORDS AND STATISTICS

Possibly the most important accomplishment during 1930 in the Bureau of Records and Statistics was to put into use the Fourth Decennial Revision of the International List of the Causes of Death. The manual for the use of this list has not yet been prepared, but because the director of the bureau was one of the American representatives at the conference that revised the list, he was able to prepare a manual for department use. The new list has been thoroughly tried out in 1930 and it gives every indication of being very satisfactory for use during the next decade.

The ruling of the Attorney General that the Michigan Department of Health was authorized to issue only certified copies of records has had a very beneficial effect in referring inquiries for ages to the local records.

Two years of marriages have been practically completely indexed, and it is expected that by the first of January this work will be completed. At the time vital statistics were taken over from the Department of State, the indexing of marriages was seven years back.

Changes have been made in the system of reporting from the organized health units and the bureau has put into use a method of notification of deaths that it is believed will insure the units being kept informed of the lethal rates in their district.

A system of notification has been in operation to advise the Department of Public Safety relative to deaths due to traffic accidents.

The director, together with his assistants, has carried a course of vital statistics for each group of the training school. A number of papers have been prepared during the year, one of which was presented at the Mississippi Valley Conference on Tuberculosis at Rockford, Illinois, in October. The bureau actively participated in the organization of the Upper Peninsula Conference.

The 1930 census has been received and preparation for the active use of the new figures during 1931 is going forward. The rearrangement of the rural and urban areas of the state on the basis of the 1930 census will be put into effect. This means that we have to add 24 cities and villages to the urban area and have dropped two cities from the urban area on account of loss of population.

One important piece of work which it is proposed to attempt in 1931 is to secure better statements of the cause of death on the death certificates. This will involve an enormous amount of correspondence, but it is believed that the results will be worth while in the production of more satisfactory statistical material dealing with disease.

LABORATORIES

The important development in the Bureau of Laboratories during 1930 has been the addition of smallpox vaccine and tetanus antitoxin to the list of biologic products distributed free of charge to physicians. The smallpox laboratory was completed in March; virus was produced and ready for distribution in October. The biologics now furnished without charge are diphtheria antitoxin, toxin-antitoxin, Schick test material, scarlet fever streptococcus toxin for Dick test and active immunization, typhoid vaccine, silver nitrate ampules, and bacteriophage.

Preparations are now being made to collect and dispense convalescent serum for poliomyelitis. Bacteriophage has been developed in the laboratory and 37,339 centimeters were distributed during 1930. Reagents used in laboratory diagnosis have been made, standardized, and sold outside of the state.

During the year, students from Michigan State College, the Rockefeller Foundation, the University of Michigan and municipal laboratories together with the physicians and nurses in training for county health department work have participated in the training activities of the Bureau of Laboratories.

The work of the diagnostic laboratories has increased in all three divisions. The greatest increase has been in the Lansing laboratory, where records show a gain of 14,995 examinations. This represents an increase in service rather than an increase to meet laboratory diagnosis in communicable diseases. For instance, 6,671 samples of water were examined for the Bureau of Engineering in their control of water supplies of the highways and resorts. Houghton branch laboratory showed an increase of about 5,000 examinations. This represents an increase of general laboratory service. The increase in service in the Grand Rapids Division is represented by about

2,000 examinations for the control of milk supplies.

The demand for laboratory service exceeds the resources of the department, in spite of a marked development of laboratory service in municipalities. Each year tularemia in rabbits increases; this year three cases have been traced to native wild rabbits. The laboratory work on tularemia cannot be done in congested quarters without the danger of infecting laboratory workers and laboratory animals. Undulant fever is another disease of increasing significance to the laboratory.

ENGINEERING

Definite advance has been made in sewage disposal facilities in the state during 1930. Three municipalities and three state institutions built sewage disposal plants, which means that the sewage of an additional 175,000 population was treated for the first time this past year. Plants will probably be completed next year in five different localities to serve about 20,000 people. Designs and specifications were prepared and plants were built for sewers and sewage disposal at six state and one county institution, at a total cost of about $160,000.

Three additional municipalities began using filtered water in 1930 to serve a population of about 7,000. Filter plants are now under construction at Grosse Pointe Farms and the Springwell's plant at Detroit.

During 1930 a total of fifteen new artificial swimming pools have been built in the state, making 162 in all. The majority of these pools continue to be located indoors, only 21 of them being built outdoors. This is due primarily to weather conditions. Some idea of the number of people using these pools may be gained by the fact that over nine million swims were recorded during the year, equivalent to two for every inhabitant of the state.

Effort has been made to have the thirty-five municipal water supplies, which are not recognized as safe for drinking and culinary use, so improved or treated that the existing danger to public health will be removed.

The plumbing law was placed in operation in 1930. This has meant the licensing of 6,000 master and journeymen plumbers and the adoption of a state plumbing code. A chief plumbing inspector and six assistant inspectors now serve on the staff of the bureau of engineering.

During the summer, 1,900 samples were collected from roadside water supplies. Of this number, laboratory analysis showed 1,612, or 85 per cent, to be safe and 288 unsafe. Approximately 10,000 miles were traveled by the four men doing roadside water inspection.

A total of 1,900 summer resorts was inspected, and approximately 2,000 water samples were collected from public supplies at these resorts. This activity touched every section of the state and was carried on by six field men.

CHILD HYGIENE AND PUBLIC HEALTH NURSING

Child care classes have continued to be one of the most popular of the services offered by the Bureau of Child Hygiene and Public Health Nursing. These classes are held in rural schools by staff nurses of the bureau, and are attended by girls from 10 to 16 years of age. The girls are taught how to care for infants and young children; how to bathe and dress them; how to prepare bottle feedings; how to give sunbaths; the necessary foods for growing children, and how to prevent disease. Briefly, the fundamentals of child care are taught these rural girls, who marry early and have practically no other training in child care. During the year, there was an attendance of over 27,000 at these classes.

Instruction in prenatal, infant and child care has been given to rural women by a woman physician and graduate nurse on the staff of the bureau. Foods for mother and child, methods of preventing disease, care of the teeth, and child management are among the topics discussed in the women's classes. Time is allowed for general discussion by those attending the classes, and many problems are talked over by the groups. During the year, 2,670 women attended the classes in 14 counties. Many requests are on file for return classes next year.

An educational nursing service to prospective mothers and mothers of young children was given in five counties. The nurses doing this type of work are under the supervision of the local doctors, who refer cases to them. In turn, the nurses report to the doctors on the cases on which they call. Home calls on mothers are made by the nurses, and the mothers discuss their problems with the nurse, who also helps the mother carry out the orders of the doctor.

The nurses act as links between the doctors and their patients. They are an invaluable help to mothers of young infants.

Diphtheria prevention campaigns were conducted in seven counties with the approval of the local doctors, the actual immunization being done by local doctors. In some instances, the staff nurses did all the organization of the campaign and also assisted the local doctors at the time the treatments were given. In other places, staff nurses assisted local nurses. Up to December 1, 1930, a total of 15,174 children was immunized against diphtheria and reports are still incomplete for the month of December.

As in former years, parents of all children born in Michigan have received certificates of registration of birth. Approximately 100,000 certificates were sent during 1930.

The Bureau of Child Hygiene and Public Health Nursing has coöperated in the Summer Round-up of the children, a project of the Congress of Parents nad Teachers, which aims to send to the entering grade in school a group of children as free as possible from physical defects. The observance of May 1 as Child Health Day was also encouraged by the State Health Department through the appointment of state and county May Day chairmen. The department suggested to these chairmen methods of observing Child Health Day, and furnished suitable literature in quantities. Immunization campaigns, examinations of preschool and school children, health talks and health plays in schools, as well as Maypoles, pageants and parades, made May Day a day of definite value to children.

By law the State Health Department has supervision of county nurses financed by county funds. This supervision is accomplished by the Assistant Director of the Bureau, who has made personal calls on county nurses and other public health nurses and assisted them in working out their problems.

To summarize, through child care classes in schools, women's classes for rural women, prenatal and infant welfare nursing, immunization campaigns, supervision of public health nurses and coöperation in state and local projects in the interest of children, the State Health Department has contributed to the welfare of children. The year ending June 30, 1930, had the lowest infant mortality rate in the history of Michigan.

FAMOUS MEN IN MEDICAL HISTORY

WALTER REED

FRANK MAXWELL, M.D.

Although Walter Reed spent more than twenty-five years in the practice of medicine, only the last ten were spent in purely scientific work. Soon after his graduation from medical school, he joined the army as an army surgeon. He was immediately sent to Fort Lowell in Arizona and he spent the next 18 years at 15 different posts in the far West.

His opportunity for scientific work began in 1890, when, after being sent to Baltimore as an examiner of recruits, he was allowed to pursue work at Johns Hopkins Hospital in pathology and bacteriology. Here he was associated with such men as Welch, Nuttall, Flexner and Halstead.

The decade preceding the time when Dr. Reed began the work of his choice had been a fruitful one concerning the etiology of infectious diseases. Upon the basis of the discoveries of Pasteur and Koch, especially as the result of the new methods introduced by Koch for the cultivation and study of bacteria, there had followed in rapid succession within this period the discoveries of the organisms causing tuberculosis, cholera, leprosy, glanders, erysipelas, surgical infections, tetanus, pneumonia, typhoid fever, malaria, amebic dysentery, cerebrospinal meningitis, diphtheria and a large number of animal diseases.

His first work of note was on the microscopical and experimental study of the so-called lymphoid nodules, which are found in the liver of cases of typhoid fever. Reed succeeded in producing these nodules ex-

perimentally and showed that they originated as small foci of dead liver cells. His paper on this subject was published in the "Reports of the Johns Hopkins Hospital." His next paper was on the "Contagiousness of Erysipelas," and from this time onward he was a constant contributor to medical journals.

When the Spanish-American War broke out in 1898, Reed was particularly anxious to hold some responsible position in charge of sick soldiers. In spite of the fact that he was singularly fitted to do this work, men with political influence were chosen over him. The result of such practice soon became obvious for the medical records of the camps were of no credit to the Army Medical Department.

Reed, however, was destined to take his part. Typhoid fever broke out among the volunteer troops and Dr. Reed was made chairman of a committee to study its causation and modes of propagation. The other members were Dr. V. C. Vaughan of Ann Arbor and Dr. E. O. Shakespeare of Philadelphia. The investigation, which covered a period of more than a year, was remarkable for the patience and skill with which a vast number of details were collected and studied, and it marked a great advance in our knowledge of the disease. The labor required in publishing this work was supplied by Dr. Vaughan, who was the sole surviving member of the board. The book is a monumental work, which will always be of value as a basis of study of the epidemiology of typhoid fever. The most original and interesting point in the investigation is the proof that the infection of typhoid fever was spread in camps by the common fly, and by contact with patients and infected articles, such as clothing, tentage, and utensils of all kinds, as well as by contaminated drinking water.

The most important work in Reed's life, that concerning yellow fever, began a year after the work by the typhoid commission was finished. Before we follow him in this, let us review the history of yellow fever in the past that we may have a better conception of the knowledge regarding it at the time Reed and his commission began their work.

Osler described yellow fever in 1892 as "an acute febrile disease of tropical or subtropical climate characterized by jaundice and hemorrhages, and due to the action of a specific virus, the nature of which is not yet known." The course of the disease, according to the same authority, is distinguished by a sudden onset without previous symptoms. There is frequently an initial chill, associated with headache and pain in the back and limbs, nausea and vomiting, constipation and diminished urinary secretion. The first or febrile stage lasts from a few hours to a few days, and may or may not be accompanied by the jaundice which gives the disease its name. It is followed by a remission, some times known as the stage of calm, during which the temperature falls, and the severity of the symptoms subsides. In favorable cases, the disease now decreases and convalescence sets in. In other instances the third stage, known as the febrile reaction, begins. The temperature again rises, all the symptoms become aggravated, the jaundice develops rapidly and in many cases the symptom called "black vomit" takes place. The latter is not necessarily a fatal symptom, but it occurs only in the severer forms of the disease. Bleeding sometimes occurs from the gums and kidneys and hemorrhage into the skin is not an uncommon symptom. The mortality is very high and has ranged in different localities from 15-85 per cent. Convalescence is slow or rapid, according to the severity of the disease, and in most cases one attack insures lifetime immunity.

In the treatment of yellow fever, almost every known measure has been tried and all with indifferent success.

At different periods in history both the Old and New Worlds have been scourged by epidemics of yellow fever, which have never been arrested by any of the means employed for the purpose. On every occasion, the disease has run its course unhindered, the only fact clearly determined being that its abatement was preceded by cooler weather.

The first authentic report of the disease occurred in Central America in 1596. It was next heard of in New England in 1618. After that it appeared on the island of St. Lucia, where in 1664-65-66 it took a tremendous toll of lives. New York was visited by it in 1668. Boston in 1691 and again in 1693. Philadelphia was first honored in 1695, and again in 1699. Between the years 1702 and 1800, yellow fever appeared in the United States 35 times.

Up to the time of the Philadelphia epidemic of 1793, the disease appears to have been accepted without question as the visitation of God, and no theories in regard to its

origin or mode of transmission were developed. In 1793, however, when the interest of the medical profession in Philadelphia was focused on the disease, two hypotheses were brought forward. One of them was that of direct importation, probably from

Walter Reed
(from Kelly's "Walter Reed and Yellow Fever")

the West Indies, and this was supported by the College of Physicians. The other view, held by some of the best authorities in the city, and in particular by Dr. Benjamin Rush, was that of spontaneous generation under appropriate conditions of filth, heat and moisture.

However, epidemics continued to appear and in 1853 came the great epidemic in New Orleans. By 1878, however, the question of yellow fever having been investigated by a United States government commission, the best authorities were inclined to the opinion that the disease was due to a specific germ. It was about this time that fomite, a term which for the next 20 years did constant service, began to come into prominence.

Thus, it would appear that the knowledge of yellow fever had advanced little beyond its status in 1793. For twenty years after this the knowledge of yellow fever remained stationary.

Experimental evidence proving that insects play an important part in the transmission of disease was first established by Dr. Patrick Manson in 1880. He proved that the mosquito acts as an intermediate host of the Filaria and is thus directly instrumental in the production of Filarial elephantiasis.

The first person to suggest that insects play a part in yellow fever was Dr. J. C. Nott, of Mobile, in 1848. However, the credit of first formulating a definite theory as to the transmission of yellow fever by means of the mosquito goes to Dr. Carlos F. Finlay, of Havana. The specific agent of the disease, however, had not been discovered in either the mosquito or man and the etiological factor remained undiscovered. Such was the condition of knowledge concerning yellow fever when Dr. Reed took up the problem.

Early in the year 1900, yellow fever appeared among the American troops stationed at Havana. In order to take advantage of the opportunity for investigating the etiology of this disease, a commission of medical officers of the United States was appointed and ordered to meet at Havana for this purpose. The men composing this board besides Dr. Reed, who was chairman, were Dr. James Carroll, Dr. Jesse W. Lazear and Dr. Aristides Agramonte. The last named was the only one of the commission who was immune to the disease.

The first efforts of the commission were directed to a conclusive experiment on the true nature of the *Bacillus icteroides,* which had been announced by an Italian scientist, Dr. Guiseppe Sanarelli, as the specific cause of yellow fever in 1897. The blood cultures of 18 patients in the active stage of the disease were carefully studied but the *Bacillus icteroides* could not be obtained from any of them, nor from cultures made at all autopsies. It was then considered established that beyond all doubt it might be excluded from further consideration.

Two separate lines of work now presented themselves, one the bacterial flora of the intestine and anaërobic cultures from the blood and various organs of yellow fever patients, the other the transmission of the diseases according to the theory of insect conveyance advanced by Dr. Finlay in 1881.

It so happened that just at this time an

opportunity was afforded Dr. Reed to investigate an epidemic of yellow fever at Pinar del Rio barracks, a little over a hundred miles from Havana. In investigating this outbreak, Dr. Reed discovered that, the true nature of the disease having not been suspected, no precautionary measures had been taken regarding the disinfection of bedding and clothing of the patient, except that in case of death the bedding was washed in bichloride. Notwithstanding the omission to disinfect the bulk of the contaminated articles, the disease had not been contracted by the nurses or the men who washed these articles. In one case, a prisoner in a guard house cell had contracted the disease after he had been confined to prison over a month. Eight other prisoners had occupied the same cell and none had contracted the disease, although one of them continued to occupy the bunk vacated when the sick man had been kept under strict military guard; it was impossible that the individual attacked could have acquired his infection directly from the town of Pinar del Rio. He was, as far as could be ascertained, exposed to no source of infection to which his companions had not been equally exposed, and yet he alone contracted the disease. Here was an accidental experiment carried out in true scientific manner with controls. It was conjectured at the time that perhaps some insect capable of conveying the infection, such as the mosquito, had entered the cell window, bitten this particular prisoner and then passed out again. This, however, was only a supposition.

Dr. Reed was so much impressed with such a possibility that he expressed the opinion to his colleagues that the plan of their work be radically changed and that the search for the specific agent be made secondary to learning something definite about the way or ways the disease was transferred from the sick to the well.

The commission then investigated the mosquito *Stegomyia fasciata* suggested by Finlay and went into great detail concerning its life cycle, habits and so on.

The line of work being determined, there arose at once the tremendous responsibility involved in the use of human beings for experimental purposes. The commission reached the conclusion that the results of such experiment, if positive, would be of sufficient service to humanity to be justified. They further concluded that it was their duty to submit themselves first before involving others in the experiment.

Dr. Reed at this time necessarily had to return to this country and the work was left in charge of Dr. Carroll. The experiment was begun by Dr. Lazear, who applied a number of infected mosquitoes to several persons, including himself, without result.

A second attempt was made a few days later and Dr. Carroll allowed himself to be bitten by a mosquito applied by Dr. Lazear. Two days later he was taken ill and within three days developed a full-blown case of the disease. Of three other persons who were bitten at the same time, only one came down with a mild attack.

Before Dr. Carroll had completely recovered, Dr. Lazear had been accidentally bitten while drawing blood from a yellow fever patient. He became violently ill and died within a week.

It was thus that Dr. Reed found things on his return. The puzzle of the transmission of yellow fever was slowly beginning to be solved. The experiments thus performed convinced the commission to such an extent that they made the following official statement: *"The mosquito acts as an intermediate host for the parasite of yellow fever."*

The first stage in the investigation thus completed, it became evident that if further experiments were to be of value, some means must be provided by which perfect control could be exercised over the movements of the individuals subjected to inoculation, in order to exclude every possible source of infection, except the mosquito.

This led to the establishment of Camp Lazear (it being named for the deceased member of the commission). This experimental sanitary station was established a mile from Quemados, Cuba, on a site well drained and freely exposed to the sun and wind.

The camp was put under strict quarantine. No one who had not spent the full period of the incubation of yellow fever was permitted to be inoculated. It was now proposed to attempt the infection of non-immune individuals in three different ways, namely, by the bite of the infected mosquito, second by the injection of blood taken from individuals in the early stages of the disease and lastly by intimate contact with fomites.

In the first part of the experiment four

non-immune army men allowed themselves to be bitten by mosquitoes, previously fed on patients with yellow fever, and every one developed the disease.

Similarly, another group was exposed to fomites, *i.e.*, bed clothing purposely soiled

CAMP LAZEAR

Building where the experiments were made which proved that yellow fever is not transmitted by means of infected clothing (fomites). The figure on the left is Dr. Carroll.

Camp Lazear
(from Kelly's "Walter Reed and Yellow Fever")

with the excreta of patients with yellow fever, even sleeping in the very shirts that patients wore through their entire illness and not a single one contracted the disease. The fomites were a myth. By injecting small doses of blood from an infected person into a non-immune one, Reed was able to produce the disease as easily as by the mosquito method.

The value of Reed's work is known to us all. We see no yellow fever today. True, now and then, there are sporadic cases in Central America, but the disease as it was known before Dr. Reed's work, has entirely disappeared. It has been estimated that from 1793 to 1900 there were over 500,000 cases of yellow fever in the United States. The actual value of Dr. Reed's work is inestimable. Besides the thousands of lives saved each year, there is another benefit. The total financial loss to the country, because of this dread condition during the 1878 epidemic alone, was over a hundred million dollars.

To return to Walter Reed, the man. He was born in Gloucester County, Virginia, September 13, 1851. The Reed family were of English extraction, being descended from Sir Christopher Reed. Walter Reed's father was originally from North Carolina, although he passed forty years of his life in Virginia as a minister of the Methodist church. His mother was Pharaba White, a daughter of a North Carolina planter, who also came from a good English family.

When Walter was 15 years old, the family moved to Charlottesville, and there he was sent to a private school kept by a Mr. Abbot, a graduate of the University of Virginia. His education had been carried on without interruption during this time, except for one year during the Civil War, when all the schools had been closed. After remaining with Mr. Abbot for two sessions and spending one semester in the University of Virginia, he applied for admission to the Medical School at Charlottesville. This request was at first refused, because of his extreme youth, but later, after a personal interview with the faculty, he was told he could take the degree of Doctor of Medicine, if he could pass his examinations. The faculty, however, thought such undertaking by a youth of 17 was an impossibility. However, in the summer of 1869, he received his diploma, standing third in his class and having the signal honor of being the youngest individual ever graduated from that school of medicine.

Soon after his graduation, he went to New York and matriculated as a medical student in Bellevue Hospital Medical College, were he received a second M.D. degree a year later. His reason for taking this second course in medicine is not clear. Because of his youth he may have wanted more instruction than had been afforded at the University of Virginia.

After finishing at Bellevue, Dr. Reed was attached to several of the hospitals in New York and Brooklyn, among these the Kings County Hospital, where he was an interne. While at one of the Brooklyn hospitals, Dr. Reed attracted the attention of Dr. Joseph C. Hutchison, then the leading physician and surgeon of Brooklyn, and through his influence was appointed as one of the five inspectors of the Brooklyn Board of Health. At this time, Reed was but 22 years old, but he had already established his reputation as a young man of the highest talents, especially for skill in surgery.

In June, 1874, Dr. Reed paid a visit to his father, who was then living in the town of Murfreesboro in North Carolina. It was during this visit that he made the acquaintance of the young woman who was

later to become his wife, Emilie Lawrence. Miss Lawrence's father was a North Carolina planter of means and influence and was directly descended from an English John Lawrence, who had come to this country in 1636.

It was during the next year, in 1874, that Reed made up his mind to abandon the idea of general practice and to enter the army as a surgeon. His resolution to do this arose from his desire to possess an assured competency as soon as possible so that he might feel justified to ask Emilie Lawrence to marry him.

He took the examinations at the beginning of 1875 and passed them brilliantly, and this event was followed shortly by the announcement of his engagement to Miss Lawrence. He was first stationed at Willets Point, New York, but in the spring of 1876, just before his marriage was to take place, he was ordered to duty in Arizona. For this reason, the nuptials took place in April, 1876, some time before they had originally been planned.

Very soon thereafter he went to Arizona as post surgeon at Ft. Lowell. For the next 18 years, he went from one to the other of 15 different posts. He undoubtedly enjoyed this frontier life immensely, as he was fond of hunting, fishing, and living out of doors. He treated professionally not only the soldiers, but the pioneers and Indians for miles around. Dr. McCow, in his memoir of Dr. Reed, wrote: "For a man like Reed, already an earnest student, no better preparation for his future could perhaps have been made. His early army service must have singularly tended to develop in him the very qualities necessary for his final success. To the very end of his life, it was noticeable that, even when he had long given up the practice of medicine for work in the laboratory, he was nevertheless unexcelled at the bedside for unerring diagnosis and sound judgment in treatment. So also were the experiments which robbed yellow fever of its terrors, especially remarkable for simplicity, accuracy and completeness, or they would never have so quickly convinced the world of their truth."

Dr. Reed's home life was very pleasant according to his biographers. Two children were born to the Reeds, a son and a daughter. The son entered the army as a career, but of the daughter I could find no record.

Dr. Reed returned to Washington from his stay in Cuba in February, 1901. He had been honored at almost every turn in Cuba, but in his own country he had received little. However, in 1902, he was given an honorary M.A. at Harvard University. Soon afterward, the LL.D. degree was conferred on him by the University of Michigan.

Late in the year 1902, it became evident that he was very much worn by his scientific labors and that his physical condition was much below par. On November 12th, he was stricken with an attack of appendicitis; an operation was performed five days later, but it was found that the appendix had ruptured. It was removed and drainage tubes were inserted, but on the fifth post-operative day the signs of general peritonitis became evident, and from this time on Dr. Reed sank rapidly, dying peacefully in a state of unconsciousness on the sixth day after the operation, November 22, 1902.

Honors came thick and fast now. He was buried with full military honors, on November 25th, at Arlington Cemetery. The New York Academy of Medicine, the University of Virginia, Columbia University, the American Academy of Medicine, the International Congress of Medicine and many other scientific bodies at home and abroad passed resolutions, expressing their sense of the loss sustained by the profession and their sympathy for Dr. Reed's family. All of the leading journals of medicine published expressions of appreciation of Dr. Dr. Reed's work and lament of his untimely end.

Soon after his death, a number of his friends and colleagues organized the Walter Reed Memorial Fund and collected $25,000, the income from which was to be devoted to Dr. Reed's wife and daughter, for he died a comparatively poor man. And at their decease, the fund was to be used either in the erection of a monument to Dr. Reed's memory or in the promotion of researches in his especial field of work.

The greatest lesson of Dr. Reed's life is that the secret of happiness and usefulness lies in giving what we can to life rather than getting what we can from it. It was his consistent adherence to this principle that raises him morally so far above his fellows. A fitting epitaph to him is—Walter Reed, physician, surgeon, a scientist in the highest sense of the word "who gave to man control over that dreadful scourge, yellow fever."

OF GENERAL MEDICAL AND SURGICAL INTEREST

USE OF IODIZED OIL IN DIAGNOSIS OF NASAL SINUS CONDITIONS

Henry M. Goodyear, Cincinnati, asserts that the use of opaque or iodized oils is an important step beyond the simple roengenogram and can be used as a routine in the antrums, with little additional effort, and whenever roentgenograms are indicated. Their use in other sinuses may be confined to obscure cases in which surgical intervention is contemplated. For direct instillations, heavy petrolatum is used for dilutions to increase the viscosity. Iodized poppy-seed oil, 40 per cent, diluted with two parts of heavy petrolatum, or iodized rape-seed oil diluted 50 per cent, and brominized sesame oil full strength constitute the opaque mediums of choice. Iodized oils should be used immediately after irrigation or not at all for from seven to ten days, as swelling of the sinus membrance may follow within twelve to twenty-four hours after any irrigation. Swelling of the sinus membranes may occur following an acute rhinitis, necessitating the delay of roentgen examination. If water is being used as a primary irrigation, the first of the solution should be put in with a syringe and the volume recorded. Whether the antrum holds 3 c.c. or 20 c.c. is often an important diagnostic aid. Frontal sinuses may be filled with the patient in the knee-chest position. Sinuses previously opened may be studied by packing with a thin strip of gauze soaked in full strength iodized poppy-seed oil before roentgen examination. Sphenoids should be injected on one side at a time to prevent overlapping shadows, but the two antrums may be injected at the same time. In atrophic rhinitis the antrums may be filled with full strength iodized poppy-seed oil, which seems to have a beneficial effect. The use of stereoscopic views, with or without opaque oils, seems to offer some advantages.

—*Journal A. M. A.*

ORTHOPEDIC ASPECTS OF CHRONIC RHEUMATISM OR ARTHRITIS

Robert Bayley Osgood, Boston, suggests that there may be an orthopedic aspect to chronic arthritis; perhaps the relation of orthopedic surgeons to internists is slightly analogous to that of the physicists to the astronomers. Orthopedic surgeons dealing with acute and advanced cases of chronic arthritis have been conscious of two very different forms of the disease. The first type is called atrophic, because, although the earliest pathologic change is proliferation of the synovial membrane, which one may only guess at in the roentgenogram, there is also a very early diminution in the density of the bone ends which can be appreciated as atrophy in the roentgenogram and soon as actual loss of substance; there is an early atrophy of the muscles controlling motion of the joints; and the disease is much more common in the slender, asthenic, atrophic type of person. The age incidence is from birth to middle life.

The second type is called hypertrophic, because, although the primary change may be a fibrillation of the articular cartilage that cannot be detected in the roentgenogram, there is almost simultaneous lime-salt deposit in the form of chondro-osseus spicules and ridges at the articular margins, which is easily visible in the roentgenogram; there is no appreciable atrophy either of the bone ends or of the muscles controlling motion of the joints until very late; and the disease is perhaps more common in the stocky, sthenic, well nourished hypertrophic type of person who tends to an overdeposit of calcium in his tissues. Its age incidence is from middle life to death. As the disease progresses, in each type these characteristic changes become more striking in the roentgenograms, to the eye, when the joints are opened and in microscopic sections of tissue. The gross pathologic changes and the microscopic changes are consistent. In what ways may the orthopedic surgeons be useful in helping to control the types of diseases included under the term chronic arthritis? First, along with the rest of the medical profession by becoming aware of the wide incidence of the disease; second, by recognizing the prodromal signs and symptoms of the generalized disease; third, by helping to prevent deformity in the active stages; fourth, by restoring function by means of appliances and surgery when the disease has become quiescent.—*Journal A. M. A.*

STREPTOCOCCAL INFECTIONS OF EPIPHYSES AND SHORT BONES

Bacteriologic studies were made by D. B. Phemister, Alexander Brunschwig and Lois Day, Chicago, of biopsied material of two cases each of Kohler's disease of the tarsal scaphoid, Legg-Perthes' disease and Kienbock's malacia of the os lunatum. Streptococci grew in cultures of four cases and cultures of two remained sterile. A streptococcus which on blood agar plates was more hemolysing than green-producing and on dextrose blood agar plates was more green-producing than hemolysing grew on cultures of one case of Kohler's disease showing acute symptoms. Green-producing streptococci grew on cultures of one case of Legg-Perthes' disease and one case of Kienbock's malacia. A streptococcus which was not further identified grew in cultures of one case of Kienbock's malacia. One case of Kohler's disease, cultures and guinea-pig inoculations of which were negative, occurred in association with multiple osseous and lymph glandular tuberculosis. One case of apparent Kohler's disease developed following traumatism. These observations, assert Phemister et al., suggest that streptococci play an important rôle in the etiology of these diseases, but that other factors may also bring them about. Whether the streptococci reach the bone in an embolus which blocks the main artery or whether they lodge there alone remains undetermined.—*Journal A. M. A.*

USES AND LIMITATIONS OF SKIN TESTS IN ALLERGY

In recent years the use of protein skin tests in the etiologic diagnosis of allergic disease has become increasingly popular. Because of the inherent difficulties and limitations of these tests, much disappointment and criticism have resulted, asserts Samuel M. Feinberg, Chicago. Sensitization tests should be considered only as laboratory guides. There are many limitations to the value of skin tests in allergy. Negative skin tests do not necessarily mean an absence of sensitization to these substances. Positive tests do not necessarily indicate the cause of the clinical symptoms. Complicating factors may be more important than the allergy. The difficulties may be met chiefly by employing, when necessary, other methods of testing, such as intracutaneous, subcutaneous, conjunctival, nasal and passive transfer; by clinical trials and elimination diets; by a broad knowledge of the clinical correlation and clinical experience in allergy; and by a willingness on the part of the clinician to consider other causes than allergy.—*Journal A. M. A.*

THE JOURNAL

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FEBRUARY, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

POST-GRADUATE COURSES IN MEDICINE

Elsewhere in this number of the Journal will be found the announcement of courses to be given by the Post-Graduate Department of Medicine of the University of Michigan for graduates in medicine. This feature of higher medical education in Michigan has come to the fore within recent years so that little more is necessary than the bare announcement to bring capacity classes. This work has been carried on principally at the University Hospital and at Detroit. Courses will be presented in Detroit later in the year. In the meantime opportunity for intensive study for short periods of time is being offered at the University Medical School as part of the Post-Graduate program of the University and the Michigan State Medical Society. These courses will be each of five days duration and will be of such a nature as to cover the entire field within a regular academic year.

The courses of study now available are: Internal Medicine, which will comprise the subjects Pulmonary Tuberculosis, Cardiology, Gastro-intestinal Diseases, Metabolic Diseases, Diseases of the Blood and Blood-forming Organs. The work in Pediatrics will comprise Infant Feeding and the Nutritional Diseases of Childhood, The Infectious Diseases of Infancy and Childhood, Growth and Development, Allergy and Mental Hygiene. The courses in Internal Medicine and Pediatrics will not be given during the same period so that physicians may atttend work in both departments.

Ample provision is also made for intensive courses in Roentgenology and Laboratory Diagnosis and Serology. These courses will vary in length from two weeks to six months. Candidates for work in the Laboratory departments may enter on the first Monday of each month throughout the year.

The work as outlined here will be given at the University Medical School. The work to be given in Detroit is in process of preparation. It will be announced shortly in the columns of this Journal.

VOLUME II OF THE MEDICAL HISTORY OF MICHIGAN

By this time those who have subscribed for the Medical History of Michigan have received the complete set of two volumes. It goes without saying that this has been a monumental undertaking and the task has been well performed. This is not an attempt to review the volume. That task has been admirably accomplished by Dr. John B. Jackson of Kalamazoo (see page 957, December, 1930, number of this Journal). Too much credit to Dr. Burr is impossible. He will never be adequately repaid for the judgment, skill and perseverance which have gone to make up these two volumes unless the gratitude of the profession is adequate reward. We are sure that Dr. Burr has this.

"With the publication of this volume,"

says editor Burr in a well composed foreword, "the task of the compilers is concluded, although, like other works of men, it is neither finished nor complete. Practically nothing is for that matter.

"Medical contributions of excellence and important names and incidents have doubtless failed of mention, this owing to space limitations in the first instance, and, in the second, to the fact that they were not discovered by the History Committee.

"For better, for worse, the production is presented with all good will, and grateful appreciation of an opportunity to place on record something of the trials of professional forebears, their frequent journeys through a wilderness-tangle of painful experience to encounter at the end of the long, long trail only disappointment and chagrin. Withal, however, their achievement was admirable, and it is the best hope of the compilers that in this work, imperfect as it is, a foundation not too unstable is laid for some future historical superstructure worthy of a profession than which no other, by and large, has been as conscientious and useful, or so unvaryingly and self-sacrificingly consecrated to the public weal."

CHILD WELFARE CONFERENCE

During the latter part of November the decennial Conference on Child Health and Protection was held at the White House, Washington. A number of physicians and others from this state were invited by the President to attend. We have received a copy of the stenographic reports of the addresses made at the various sessions, which extended over four days. This report embraces one hundred and sixty-five columns of printed matter, so that the abstracting of it would be a rather gigantic task.

President Hoover, who gave the opening address, stated that the problem fell into three groups; first, the protection and education of the normal child; second, aid to the physically defective and handicapped child; third, the problem of the delinquent child. He gave the following statistics, which are in themselves interesting. Out of 45,000,000 children in this country, 35,000,000 are reasonably normal, 6,000,000 are improperly nourished, 1,000,00 have defective speech, 1,000,000 have weak or damaged hearts, 675,000 present behavior problems, 450,000 are mentally retarded, 382,000 are tubercular, 342,000 have impaired hearing, 18,000 are totally deaf, 300,000 are crippled, 50,000 are partially blind, 14,000 are wholly blind, 200,000 are delinquent, and 500,000 are dependent. These statistics are very impressive and it is a commendable fact that in the schools, of particularly the larger centers, provision is made for the deaf; we have also heart clinics, and provision for open air schools to take care of the tubercular as well as schools for the blind. It is a rather astonishing fact that in this land of plenty there can be six million improperly nourished children which, we presume, in the largest number of cases are *under-nourished* children. These in turn belong largely to the urban population. The condition is due, in large measure, to sporadic employment of fathers in the various industries. The great problem with the under-nourished child, it would seem to us, has as a basic factor seasonal unemployment in the various trades and industries. There is a tendency on the part of industry to speed up production, to get a surplus ahead and then to lay men off. This is one of the problems that must engage industrial statesmanship (we are not at all sure there is such a thing) in the immediate future.

AUTOMOBILE ACCIDENTS A LIABILITY TO MEDICINE

According to the Saturday Evening Post, automobile accidents in the United States cost hospitals in unpaid bills the immense sum of $7,000,000 a year. What these cost the medical profession in unpaid bills is not mentioned, owing to the fact that it is not so definitely known. For every unpaid hospital bill there is an unpaid doctor's bill. The careless motorist, according to the Post, leans confidently on his personal-liability and property-damage insurance for protection and freedom from worry. We are inclined to disagree with this statement. The careless motorist does not even carry such insurance. He is too selfish to give his possible victim that much consideration.

We believe, however, a graded system of insurance would be a good thing, as it would place a premium on careful driving. While we hesitate to propose any more laws in this law-ridden country, all motorists should be compelled to carry personal-liability and property-damage insurance. Inability to obtain such insurance, for whatever cause,

should bar them from the city streets and rural highways.

IF—

"If, as some critics urge, science and machinery were abandoned, if a few hundred thousand engineers (out of the earth's teeming multitudes) should quit work for good, the whole structure of modern society would come down about our ears, great cities would sink into ruins and grass would grow in their streets. Telephone and telegraph lines would cease to hum with messages; railway lines would fade away in rust; water would no longer flow at the faucet and the wastes of the city would block its sewers. Electric lights would go out and darkness fall at night on the whitest of the White Ways. The daily press gathering the news from the four corners of the earth would disappear, ocean liners would stop on the high seas and drift like chips of wood before the wind and wave. Epidemics such as the Black Plague would sweep through whole continents leaving festering death in their train."

—Charles Beard in "Toward Civilization."

If the hundred thousand doctors in the United States were to take a six months vacation, or even if they remained at their posts and interpreted their duties as simply attending the sick, giving no advice to the family in regard to prevention of further illness among its members; no attention to isolation in the case of infectious diseases; no attention to the subject of periodic health examinations with the purpose of forestalling illness; no attention to immunization; no attention to hygiene in the family, epidemics as devastating as the Black Plague would claim their millions of victims. In any movement towards preventive medicine the practising physician from the very nature of his work is the man in the first line defenses.

IS STATE MEDICINE A SOLUTION?

We have received an editorial copy of a book* the aim of which, according to the description on a flaming red jacket, is "to put the layman wise to what goes on under the cover of medical 'ethics,' what abuses, what ignorance, are connived at in its name; to let him know just what state of advancement really prevails in the various branches of American medicine today as compared with other countries, to give him an inkling of the average man's helplessness in the face of what remains, in spite of so many fine individual doctors, the most medieval of our professions and point the way out—the organization of medicine as a science in preparation for the coming of state medicine." On reading this over we must confess we were somewhat alarmed and had begun putting our defense mechanism in order. However, as we began to read the book our attitude had become wholly changed. Within the past few years a number of articles on the social aspects of medical practice have appeared in the better class of lay magazines by more or less well informed laymen with ability to write. We have read a number of these and always with profit even when we disagreed. The present book is in the same class as the higher grade magazine articles and it is compiled by an able and intelligent writer. (We say *compiled* advisedly, inasmuch as the book contains a large amount of material which is quoted and abstracted from the writings of scores of men who are recognized as the leaders of the medical profession in the United States as well as Great Britain.) It is well documented. Were it not for the unadulterated frankness of the medical profession, however, in speaking openly and not "under cover," this book could scarcely have been written. Of course, it goes without saying that any conscientious doctor, and this includes the great majority of the medical profession, will see little to dispute in many of the fifteen chapters. This applies particularly to the author's observations and criticisms which have been based for the most part on those of observant members of the medical profession. The fact that doctors are their own most intelligent as well as severest critics is one of the most wholesome signs we have for the improvement of the profession. We hesitate to compare medicine with any of the other learned professions, but the fact that doctors are self-critical should free medicine from the taint of medievalism.

* * *

The writer attacks medical education, claiming that the result is unscientific, basing this judgment on therapy, which is the contact between doctor and patient. Recently has appeared another book,* by no less a person than Dr. Abraham Flexner, in which he launches an attack upon higher education in general as it obtains in this country. On the contrary, medicine is becoming more and more scientific. The more it becomes

*Fads, Frauds and Physicians, Diagnosis and Treatment of the Medical Dilemma. By T. Swann Harding; 409 Pages; Lincoln Macveagh, The Dial Press, New York.

*Universities American, English, German. By Abraham Flexner. New York Oxford University Press.

so, the less stress is placed upon drugs and the less the attempt to accomplish the impossible. It would be a good thing, we agree, if a process of elimination were attempted with the object of discarding useless and therefore ineffective therapeutic measures. This has been said many times by men in the profession whose training and experience entitle them to speak with authority. There is no closed knowledge in science. Science has been called "organized" knowledge. This is not a good definition. A thing that is "organized" ceases to evolve; it becomes fixed. From the time of Galen until the sixteenth century medicine was "organized," until Vesalius first, and Harvery later (1628), dis-"organized" it and made it scientific. A far better definition is that of Charles Singer, the medical historian. Science deals with the growing edge between the known and the unknown. It is "knowledge in the making." When knowledge becomes organized it is no longer science. Medical science, as everyone directly concerned knows, has been continually progressive for nearly half a century. But it has undergone fitful advances from the time of Harvey. True, it has a long way to go yet before it satisfies. There has been scarcely a time during this period that a book written on any phase of it was not practically obsolete within five years of its publication. Mr. Harding's idea of "organizing" medical science, however, refers rather to organization of the various factors concerned, rather than medical science itself.

In the course of the discussion are raised the questions: How scientific are our doctors? Are physicians humane to their patients? (Even for the purpose of furthering the cause of state medicine, good judgment would have omitted this chapter.) Do doctors often err? The problem of medical intelligence, where does medical quackery begin? How can you choose a good doctor? How should pharmacy be regulated? Getting your money's worth of doctoring; the hospital of today and the public. The chapter entitled Science and the Doctors' Dilemma is excellent. Space will not permit abstracting it. The manner in which these phases of medical practice are dealt with is interesting, even though there are two sides to every question. The writer, as we have already said, has noted shortcomings which the profession have been, themselves, for the most part, first to observe. To reveal our shortcomings it is necessary only to catalogue them. Many of the faults are incident to poor human nature and not a part of medicine at all; therefore, state medicine would not alter the situation in the least.

* * *

Referring to the subject of preventive medicine, the author writes as follows: "It does seem that we might soon see our way clear to spend more than sixty-three cents per person annually in disease prevention, yet it is a fact that few physicians are enthusiastic about preventive medicine. How can they, when their income rests upon illness? They become so only when they enter the service of the state." It goes without saying that this statement is not substantiated with any documentary proof, for the simple reason that proof is wanting, as any practising physician knows. Preventive medicine has developed more than any other department and in great degree through the coöperation of the rank and file of the profession.

Regarding the alleged apathy of physicians towards community health and preventive medicine, our response is well stated by Dr. William Gerry Morgan, who replied to the author of Fads, Frauds and Physicians as follows: "Perhaps the most unjust and malicious statement that I have ever read in the public press," says Dr. Morgan, "is the one just quoted. It is a serious charge. It is more than a serious charge, it is an accusation without a scintilla of truth as a foundation for it and would be unworthy of notice had it not received editorial comment."

Sir Arthur Newsholme in his fascinating volume on the Evolution of Preventive Medicine has the correct idea. He says: *"To give a sketch of growing knowledge of preventive medicine, without touching and encroaching on clinical medicine at each stage is impossible; for it is largely through the study of disease and its treatment that knowledge of its prevention has come; and furthermore, treatment of individual illness must always continue to be a chief means of preventing it."*

In the movement toward preventive medicine the practising physician has always been the chief factor.

* * *

Then there is the recrudescent attack upon

the cost of medical care. With a great deal of this the physician has nothing to do. The cost of drugs, surgical supplies and hospitals is regulated by the laity and physicians have little or no part in it, except refusing to make use of them wherever this could be done without harm to the patient.

According to statistics compiled by Dr. W. E. Rappleye, in comparing cost of medical care with the cost of other items which the people deem necessities, each family spends a year in patent medicines and drugs the sum of $25.00; in tobacco $67.00; in candy $37.00; movies and entertainment $35.00; soft drinks, ice cream and gum $34.00; the family automobile and its maintenance costs $187.00; and the amount paid to the physician is $24.00.

If this is the relative cost of the physician's services it is inconceivable how it can be considered excessive. We make use of the statistical average because Mr. Harding uses it in discussing the meager cost of preventive medicine which he refers to as sixty-three cents a year. The medical profession of this state in its post-graduate clinics and courses is striving for better medical service. If the above figures are correct, the cost is not excessive, particularly in view of the amount of service rendered gratuitously those who cannot pay.

* * *

Is state medicine the remedy? What would it mean for Michigan? It would doubtless mean greater efficiency if we are to view efficiency on the basis of mass production. One doctor on salary during a nine-hour day would be able to see and to minister to a great many patients, more, perhaps, than he would see in private practice in a week. We see this already in the free clinics. In spite of this fact, which is always seen under amalgamation of social and industrial forces, our author (Harding) says (under State Medicine), "All physicians in the district would be on the staff of the local central institution and would operate with its complete facilities immediately at hand." On the contrary, a small portion of the doctors of the state would be able to care for the sickness which now requires the attention of about 4,000, but what of the remaining doctors who would be forced out of the profession? We are suffering from *efficiency* at the present time. Every time there is a merger or an amalgamation of commercial or industrial interests we have forced out of gainful employment large numbers of highly competent men and women. The machine, which is undeniably one of the greatest factors in promoting efficiency, has eliminated man-power so that now we have a very serious crisis to contend with. Efficiency works according to the economic law of diminishing return. Up to a certain point results are beneficial; beyond that, beneficial good results diminish until instead of being a blessing, they become actually detrimental.

"But how shall this [State Medicine] be paid for?" asked the author, then proceeds to answer his own question as follows: "In part by the State." How the remaining expense is to be met he does not say. So we shall add, "entirely by the State," if the author's analogy of the public school system is to hold good. He goes on to tell that the government pays its civilian doctors from $2,400 to $5,000 and its army and navy doctors $2,696 to $3,152 if they have a family. Good. They may be obtained for a great deal less when the rank and file of doctors are open for competitive employment by the state. "To make medicine scientific," says our author, "we need some such organization as is outlined above."

On the simple basis of economy can we afford state medicine? State medicine would add greatly to the load the already burdened taxpayer is carrying. Taxation even as it prevails at present often results in the ruination of the home owner, on a more or less meager wage; it tends to drive out of business the larger property owner who already carries the major burden of government.

The next step is state dentistry, and it would be difficult to prophesy where it would end except in universal bankruptcy.

It is strangely significant that the advocates of state medicine are for the most part outside the medical profession. They have little to risk in any radical change; yet they marvel at what they call the conservatism of the medical profession who assume all the risk. What other profession or interest, be it commercial or industrial, would not resent interference on the part of outsiders?

We do not know what the future has in store. It may be medicine completely controlled by the state. In our editorial darkness we will not venture to prophesy. All the more necessary is it for the profession

to become alive to medico-social opinion outside the profession and we know no better recent work on the subject than the present with its bizarre title, Fads, Frauds and Physicians.

BARGAINS IN LIVING FLESH.

OPERATIONS FOR SALE.

THE BUYING POWER OF THE DOLLAR.

AMERICAN PHYSICIANS DO THE SURGERY ON HUNGARIAN PATIENTS.

These are a sample of headlines which appeared in Viennese as well as Budapest newspapers during the past summer. According to Ars Medica (the publication of the American Medical Association of Vienna), instruction in operative technic is not permitted on living patients in the state-supported hospitals of Austria. American post-graduate students accordingly betook themselves to the neighboring cities of Czecho-Slovakia and Hungary to obtain practise after the necessary basic work was covered in Vienna. Budapest was one of the cities which American physicians and surgeons visited for practical work. There was a large variety of material and good instruction could be obtained for a reasonable fee; as a result between twenty and thirty American physicians were in constant attendance.

The articles in the lay press which bore the above headlines evidently had an influence on the Mayor of Budapest, who directed the superintendents of all city hospitals to refuse permission to American post-graduate students to operate within their institutions.

It appears that Budapest has a population of about one million inhabitants; 80 per cent of this population is being cared for by 500 panel physicians, leaving the remaining 200,000 of population to be cared for by the remaining 3,500 physicians in private practice; that is, there is one physician for every 57 persons, so that the majority of the independent physicians are able to eke out only the barest existence. Along comes the American physician with his dollars which enabled him to get the choicest material and most expert instruction. Of course, the remuneration went to the professor, who forgot to share with his assistants. This, of course, met with opposition, resulting in the Mayor's ruling. It was found that some of the patients died and some did not do well, all of which was attributed to the incompetence of the American student surgeon. An investigation, however, was made, in which no negligence or irregularity was found. The newspapers of the city turned to the right about and condemned the Mayor's order, referring to the ingratitude on the part of the city in barring men from the United States, who did so much for suffering Budapest following the War.

THE BEAUMONT LECTURES

The Beaumont Lecture Foundation was created by the Wayne County Medical Society out of a fund appropriated by a number of its members during the war for the purpose of helping members of the Society and their families who might require loans By the unanimous consent of the contributors to the fund when no longer needed for the original purpose for which it was authorized, it was decided to create a lecture foundation. The interest has been sufficient during the past eight years to defray the expense of bringing a lecturer to Detroit each year to give a series of lectures on some subject of a general nature and basic to the science of medicine. As a result there has been an array of speakers second to none other in the English speaking world. On a recent visit to London, the editor was delegated to interview Sir Arthur Keith with the purpose of securing him as lecturer. On reading over the list of subjects and speakers Sir Arthur commented on the fact that we had been able to procure such wonderful men, several of whom were personally known to him. The list included the following speakers and subjects: Inflammation, by W. G. MacCollum; Methods and Results of Direct Investigation of the Function of the Kidney, by A. N. Richards; The Thyroid Gland, by Charles H. Mayo and Henry W. Plummer; The Liver and Its Relation to Chronic Abdominal Infection, by C. G. Heyd and John A. Killian; Hormones and Structural Development, by Charles Stockard; The Human Constitution, by George Draper; The Gastrointestinal Tract, by A. Carlson; Behavior Patterns of the Alimentary Tract, by T. Wingate Todd. These series have since appeared with one exception in book form. So great has been the demand for several of the series that the

supply was exhausted soon after publication.

The members of the committee in charge of the Lecture Foundation serve for a period of five years. The members at present are Drs. William Donald, James E. Davis, Arthur McGraw, William Reveno, E. C. Baumgarten, W. E. Blodgett and J. H. Dempster.

The lectures have become such a valued feature of medicine in Detroit that a full house is assured each speaker. The name commemorates the work of one of the pioneer physiologists of the world who was in every sense a Michigan physician. Therefore, instead of making these lectures entirely a Wayne County affair an invitation is extended to every member of the Michigan State Medical Society to attend the lectures this year by Dr. James Ewing, Professor of Pathology of Cornell University, who will deliver the series on February twenty-third and twenty-fourth.

LO! THE POOR IMMIGRANT!

"Next?"
"Who, me?"
"Born?"
"Yes, sir."
"Where?"
"Russia."
"What part?"
"All of me."
"Why did you leave Russia?"
"I couldn't bring it with me."
"Where were your forefathers born?"
"I only got one father."
"Your business?"
"Rotten!"
"Where is Washington?"
"He's dead."
"I mean the capital of the United States."
"They loaned it all to Europe."
"Now, do you promise to support the Constitution?"
"Me? How can I? I've got a wife and six children to support." Kalens.

"According to Herodotus the Babylonians had no physicians, and they brought their sick into the market-places in order that passers-by might confer with them upon their symptoms, in the hope that the patient might elicit from some one who had been similarly afflicted, advice as to how to proceed to effect a cure."—Dawson.

THE BRIDGE OF SIZE

The following little poem is a parody on Thomas Hood's poem, "The Bridge of Sighs." Our acknowledgments are due the Manchester Guardian, where so many of these humorous bits of poetry appear from time to time. The little poem is based upon a news item to the effect that a secret method of massage is being employed as "slendering" treatment. The woman, it is said, disappears into a cubby hole and is rubbed so violently that after a week she is guaranteed to lose three inches of her waistline.

One more unfortunate
  Burdened with beef,
Rashly importunate,
  Seeking relief!
Take her in graciously,
  Save her esteem—
Fashioned too spaciously,
  Broad in the beam.

Far too cherubical,
  Vastly too thick,
Into a cubicle
  Bundle her quick!
Where she sticks out a bit
  Treatment she needs;
Bang her about a bit
  Till she recedes.

Rub till she's angular,
  Lissome and lean—
Wholly rectangular,
  Fit to be seen;
Where she proves squeezable
  Scrub off the fat;
If it is feasible
  Roll her out flat.

Frail and ethereal
  Fain she would be—
Surplus material
  No one should see.
Stamp on her, jump on her,
  Pummel and pound;
Naught that is plump on her
  Ought to be found. . . .

Lead her forth tenderly,
  Aching and sore—
Ah! but more slenderly
  Shaped than before;
Summon the dutiful
  Mannequin crew:
Madam looks beautiful,
  Madam will do!

DEATHS

DR. GEORGE K. SIPE

Dr. George K. Sipe of Detroit died at his home, 6385 Burns Avenue, Detroit, December 9, 1930, of pneumonia, after a short illness. Dr. Sipe was born at Reading, Michigan, in 1869. He was graduated from the Detroit College of Medicine in 1908, since which time he has practised his profession in Detroit. Dr. Sipe was actively interested in medical affairs and had been one of the founders of the East Side Physicians Association. He was a former president of the East Side Physicians Association. Dr. Sipe was a member of Ashlar Lodge F. and A. M. He is survived by his widow; one son, James G. Sipe, a Detroit attorney; and by two daughters, Mrs. Vera Blaske and Miss Virginia Sipe.

DR. E. J. MARSHALL

Dr. E. J. Marshall of Marshall, Michigan, died at his home December 25, 1930. He was 77 years old and had lived in Marshall, Michigan, since 1880. Dr. Marshall was active in civic affairs of his town having twelve years on the Board of Education and six years on the city council. He is survived by three daughters, all of whom are married.

GENERAL NEWS AND ANNOUNCEMENTS

The place and date of the 111th Annual Meeting of the Michigan State Medical Society is Pontiac, September 22nd, 23rd and 24th.

Andrew P. Biddle, M.D., D.Sc. (Hon.), was elected at the annual meeting held January 6, 1931, President of the Detroit Library Commission.

Dr. Angus McLean of Detroit addressed the regular meeting of the St. Clair County Medical Society, January 6, on the subject "Trends in Medicine and Surgery."

Dr. and Mrs. N. A. Herring of Niles, Michigan, started south on the 19th of January to spend the remainder of the winter in St. Petersburg, Florida. They expect to return the last of March.

Dr. John B. Deaver of Philadelphia gave an address on the "Surgical Treatment of Peptic Ulcer" before the Wayne County Medical Society, January 6. Nearly a thousand members and guests of the Wayne County profession were present.

A joint meeting of the Detroit Roentgen Ray and Radium Society and the Detroit Academy of Surgery was held at the Book-Cadillac Hotel, Detroit, January 8, when the meeting was addressed by Dr. Guy L. Hunter of Baltimore. His subject was Renal Hemorrhage. Dr. William E. Lower of Cleveland spoke on Tumors of the Kidney and Their Surgical Treatment.

A questionnaire has been mailed to each member of the Michigan State Medical Society. It is requested that prompt attention be given to answering the various questions. This questionnaire is sent out with the approval of the Society in order to obtain information which will materially assist the functioning of the various standing committees of the Michigan State Medical Society.

The Beaumont Lectures will be held at the Maccabees Building headquarters of the Wayne County Medical Society February 23 and 24. The date as announced in the January number of this Journal was changed but the announcement of the new date came after this Journal was in process of being printed. A cordial invitation is extended to all members of the Michigan State Medical Society.

Dr. T. K. Holmes of Chatham, Ontario, died Christmas day at the age of 92 years. Dr. Holmes was an uncle of Dr. Arthur Holmes of Detroit. He was one of the best known medical men in Canada, having one time filled the office of President of the Canadian Medical Association. He was a graduate of the University of Michigan of the class of 1857. The doctor was a great traveller and a genuine scholar whose interests went beyond his professional sphere.

The American Journal of Roentgenology and Radium Therapy edited by Dr. Lawrence Reynolds of Detroit, a member of the Michigan State Medical Society, is one of the best of the special medical magazines of national scope. Among the contributions to the November number by members of the Michigan State Medical Society are the following; Mikulicz's Disease and the Mikulicz Syndrome; Their Treatment by Radiation, Drs. T. Leucutia and A. E. Price of Detroit. Hyperplasia of the Thymus by Dr. S. W. Donaldson of Ann Arbor. Dr. Hans A. Jarre of Detroit contributes an article on the Cin-Ex Camera.

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A Division of Epidemiology has been established in the Department of Health, beginning the first of January, 1931. The object of this Division is to make fundamental studies on the means by which certain communicable diseases are spread in a community, and the best methods for controlling the same. The Division is made possible by a contribution from the Rockefeller Foundation. The personnel is as follows: Dr. J. E. Gordon, Director; Dr. Sarah S. Schooten, Associate Director; George B. Darling, Statistician.

As the work develops, further personnel will be added. The central office of the Division will be at the Herman Kiefer Hospital. All records and resources of the department which are needed will be supplied this Division. The first studies will have to do with certain problems in connection with scarlet fever.

At the general meeting of Tuesday, January 6, 1931, the membership of the Wayne County Medical Society elected delegates and alternates to represent it in the House of Delegates of the Michigan State Medical Society as follows:

Delegates—Norman M. Allen, Jos. H. Andries, L. Byron Ashley, Andrew P. Biddle, G. Van Amber Brown, A. E. Catherwood, John L. Chester, Norman E. Clarke, Basil L. Connelly, J. D. Curtis, Jas. E. Davis, C. E. Dutchess, Bert U. Estabrook, L. J. Gariepy, T. K. Gruber, Clyde K. Hasley, Walter L. Hackett, L. J. Hirschmann, Frank A. Kelly, Chas. S. Kennedy, Chas. Lakoff, Henry A. Luce, C. F. McClintic, Richard M. McKean, G. C. Penberthy, H. W. Plaggemeyer, Wm. S. Reveno, J. M. Robb, Edw. D. Spalding, Wm. J. Stapleton, Jr.

Alternates—C. J. Barone, E. C. Baumgarten, D. S. Brachman, Wm. N. Braley, C. L. Candler, W. J. Cassidy, Don A. Cohoe, Daniel P. Foster, H. B. Garner, Ledru O. Geib, Leslie T. Henderson, A. J. Himmelhoch, Wm. H. Honor, Wm. E. Johnston, Frank Kilroy, Louis Klein, D. J. Leithauser, Nelson McLaughlin, L. J. Morand, A. E. Naylor, Frank S. Perkin, Ronald P. Reynolds, J. R. Rupp, Susanne Sanderson, F. Janney Smith, Verne L. Van Duzen, A. H. Whittaker, F. B. Wight, Frank C. Witter, Wm. P. Woodworth.

SOCIETY ACTIVITY

PROCEDURES TO BE FOLLOWED WHEN A DOCTOR IS THREATENED WITH MALPRACTICE SUIT

There seems to be considerable misunderstanding as to what course should be pursued when a member is threatened or is sued for malpractice. The Medico-Legal Committee of the State Society will defend every member in good standing through all the courts. In order that there may be no entanglements and that proper legal protection may be given, members are urged to observe the following instructions—

When threatened with suit or when served with a bill of complaint for malpractice, notice should be *immediately* given to the Medico-Legal representative of your local county society. Notice should also be *immediately* given to Dr. F. B. Tibbals, chairman of the Medico-Legal Committee, 410 Kresge Building, Detroit, Michigan, together with all papers or notices that may have been served upon you.

It is important that a member does not discuss either with an attorney or with the plaintiff any of the facts or details concerning the suit. Pursue a course of absolute silence and await full instructions from Dr. Tibbals. Do not engage any local attorney, but await instructions that will be given to each member in regard to the employment of legal talent. This procedure is absolutely essential and imperative in order that you may be surrounded with the fullest protection.

Members are urged, when attending fracture cases, to have an X-ray picture made before any attempt at reduction or treatment, and also to have several X-ray pictures taken during the course of treatment and upon the final discharge of the patient. Failure to do so makes procedure for defense difficult.

Remember, in all suits or threats of suit, to *immediately* send a full report to Doctor Tibbals.

COMMENTS

Yes, the Legislature is in session. Your Executive and Legislative Committee is on the job. Local Legislative Committees are urged to respond promptly to requests received from the State Committee.

Secretaries are urged to send in monthly reports of meetings and activities. Our history is published. The Journal will continue to record our activities for future record. Your reports will preserve your county records.

The Committee on Civic and Industrial Relations has held two meetings during January. A report will appear in the next issue. Members are urged to conform to the resolution of the House of Delegates and insist upon remuneration for filling out insurance blanks. A solid front is essential to overcome this imposition on the part of insurance companies.

The Board of Registration In Medicine will appreciate receiving reports of violations of the medical practice acts. Address communications to 1010 Maccabee Bldg., Detroit.

MINUTES

The minutes of the January meeting of the Council and the Transactions of the County Secretaries Conference will appear in the March issue.

DUES

Your annual dues are now payable. Assist your County Secretary by sending him your check today. Do not require him to send you several reminders or statements. Write that check now.

COUNTY SOCIETIES

ALPENA COUNTY

At the annual meeting of the Alpena County Medical Society held on December 18, 1930, the following officers, for the year 1931, were elected: President, Dr. D. A. Cameron, Alpena; vice president, Dr. N. C. Monroe, Rogers City; secretary-treasurer, Dr. Wm. B. Newton, Alpena; delegate, Dr. E. L. Foley, Alpena; alternate, Dr. A. R. Miller, Harrisville; legal representative, Dr. W. E. Nesbitt, Alpena.

The report of the secretary-treasurer revealed a paid-up membership of sixteen and the society in a flourishing condition with a substantial cash balance in the treasury.

William B. Newton, *Secretary-treasurer.*

BERRIEN COUNTY

The Berrien County Society held their annual meeting in Benton Harbor at the Hotel Vincent, December 23, 1930.

At a short meeting held following a dinner the secretary's report for the year was read. Dr. J. J. McDermott, the retiring president, gave a short talk summarizing the year's program and making suggestions for the improvement of the society.

The report of the nominating committee was then read and the following men nominated for officers for 1931: President, F. W. Tonkin, Niles; vice president, Carl A. Mitchell, Benton Harbor; secretary-treasurer, W. C. Ellet, Benton Harbor; delegate to State Medical Society, W. C. Ellet, Benton Harbor; alternate, L. M. Rutz, Niles.

There being no further nominations offered a motion was made that a unanimous ballot be cast, and these men were elected.

Dr. O. R. Yoder of Kalamazoo gave the address of the evening with the subject, "The Psychological Management of the Patient." It was his contention that this was the fine art of the practice of medicine, bringing out in the course of his talk the inherent idea of the sick that the body is not a machine but a copy of the Diety and therefore different and to be handled and treated as a mystical thing. The futility of immediate disagreement with the patient's preconceived ideas, and the almost inflexible rule of treating the patient first and the disease secondary were some of the points that he brought out. The danger of overdoing this treatment and the nearness to quackery were also stressed. He brought out the absolute necessity of empiricism in prescribing by the successful physician.

His talk was extremely interesting and concerned a matter which the busy practitioner is often apt to neglect. Doctor Yoders' method of delivery kept his audience very attentive.

W. C. Ellet, *Secretary.*

IONIA-MONTCALM

The annual meeting of the Ionia-Montcalm Medical Society was held at the Hotel Belding, December 9, 1930.

Immediately after the dinner, the president named the nominating committee: Doctors Toan, Weaver and Lilly, who reported the following officers:

President, Dr. George E. Horne; vice president, Dr. W. W. Norris; secretary, Dr. John J. McCann; chairman of Medico-Legal Committee, Dr. John J. McCann.

Motion was made and carried that the annual fees for the year of 1931 would be $15.00; and for the dentists (associate members) $5.00.

Doctor Stanton then assumed charge of the program, introducing Doctor Corbus, of Grand Rapids, who spoke on problems and activities of the State Society; he referred to prospective legislation, economics, and the program planned by the Post-Graduate Medical Department of the Association in cooperation with the University of Michigan.

Dr. James Brotherhood, of Grand Rapids, then read a paper on "The Anemias," with particular reference to pernicious anemia. He emphasized the rôle of reticulocytes and their increase under liver therapy.

Dr. Charles V. Crane gave a travelogue of his recent trip to Europe, which was very interesting. He emphasized, however, that unless one wishes to spend a considerable length of time abroad, he will get much more in the way of satisfactory instruction in the clinics of our own medical centers.

Meeting then adjourned. Attendance twenty-four.

John J. McCann, *Secretary.*

JACKSON COUNTY

At the December meeting of the Jackson County Medical Society the following officers were elected for the coming year: President, Dr. Ferdinand Cox; vice president, Dr. M. N. Stewart; secretary, Dr. R. H. Alter; treasurer, Dr. F. G. Ransom; directors, Dr. H. A. Brown, Dr. C. R. Dengler, and Dr. J. C. Smith; delegates, Dr. Phillip Riley and Dr. J. J. O'Meara; alternates, Dr. C. S. Clarke and Dr. H. A. Brown.

R. H. Alter, M.D., *Secretary.*

KALAMAZOO ACADEMY OF MEDICINE

The forty-seventh annual meeting of the Academy of Medicine was called to order by the president, Dr. J. C. Maxwell.

Election of officers. The president asked for nominations for president for the coming year. Dr. F. T. Andrews nominated Sherman Gregg and briefly stated his qualifications. Dr. Gregg in turn nominated Dr. F. T. Andrews, calling to the attention of those present his loyalty to the Academy and State Society. Drs. Westcott and Squiers were appointed tellers and they reported to the president a majority vote for Dr. Gregg. Dr. Collins moved that the secretary be instructed to cast unanimous vote in favor of Dr. Gregg. Seconded by Dr. Boys. Unanimously carried.

The president called on Dr. Collins for the report of the nominating committee which is as follows:

First vice president, G. M. Riley; second vice president, W. R. Vaughn; third vice president, Paul G. Schrier; secretary, R. J. Hubbell; treasurer, Hugo Aach; librarian, Clara Unrath; censors (2),

R. A. Morter, L. J. Crum; delegates (2), F. T. Andrews, A. A. McNabb; alternate delegates (2), John Rickert, D. C. Rockwell.

Dr. Shackleton moved that this report be accepted and adopted as read. Seconded by Dr. Boys. Unanimously carried.

Attention was called to the treasurer's report printed in the bulletin. No questions or discussion. The report of the Public Health Committee as printed in the bulletin was accepted.

Communications were read.

No other committee reports.

No new business.

Dr. Gregg took the chair and called on Dr. J. C. Maxwell for his exaugural address.

Dr. Gregg introduced Dr. James Pierce of the University of Michigan, who gave very enlightening talks on "Trichomonas Vaginalis" and "Avertin Anesthesia."

Meeting adjourned.

In the evening at the Park American Hotel the annual banquet was well attended by the members of the Academy and their wives. Dr. C. A. Bennett presided as toastmaster and called for a "stand up" of the new officers present, and introduced our new president, Sherman Gregg.

Whistling solos were rendered by Miss Dorothy Mathews assisted by Miss Mary Dunn at the piano. Reverend William Gysan gave a very interesting talk on "Seeing the West" illustrated profusely by slides in natural colors. It included particularly scenes in the Black Hills, Yellowstone Park, the Grand Canyon, and the newly discovered Bryce canyon.

MANISTEE COUNTY

The Manistee County Medical Society met December 28, 1930, and elected the following officers for 1931: President, C. J. Grant, Manistee; vice president, D. A. Jameson, Arcadia; secretary-treasurer, Ellery A. Oakes, Manistee; delegate, Michigan State Medical Society, A. A. McKay, Manistee; alternate, H. D. Robinson, Manistee.

Kathryn M. Bryan, *Secretary, 1930.*

MECOSTA COUNTY

At the regular meeting of our Society held in Big Rapids December 9, 1930, the following officers were elected for the current year: President, Donald MacIntyre, Big Rapids; vice president, L. E. Kelsey, Lakeview; secretary-treasurer, J. L. Burkart, Big Rapids; legal advisor, James B. Campbell, Big Rapids; delegate to M. S. M. S., L. K. Peck, Barryton; alternate, B. L. Franklin, Remus.

The regular meeting of this Society was held at Reed City Tuesday evening, January 13, 1931. Drs. Witters and Kilmer entertained the Society, and Drs. Schermerhorn and Foshee, of Grand Rapids, furnished the intellecutal part of the program. An excellent dinner was served by our hosts in the new Osceola Hotel at Reed City. Sixteen members of the Society were present, and the meeting augurs well for the coming year.

John L. Burkart, *Secretary-Treasurer.*

MIDLAND COUNTY

On January 9, 1931, a meeting of the members of Midland County Medical Society was held at the office of Dr. C. V. High, Jr., at Midland. Six of the eight members were present.

The new county health unit doctor was elected a member.

Dr. W. D. Towsley was elected president and Dr. E. J. Dougher secretary, for the year 1931.

E. J. Dougher, *Secretary.*

MONROE COUNTY

Monroe County Medical Society met at the Park Hotel, Monroe, December 18, 1930. An excellent dinner was served in the private dining room. Dr. Kretzschmer of the University Hospital, Ann Arbor, gave a talk on "Abnormal Bleeding in Obstetrics and Gynecology." He divided his subject according to the age of the patient and included a comprehensive discussion of treatment for each condition. The address was excellent and provoked an interesting discussion by the members present.

Florence Ames, M.D., *Secretary.*

NEWAYGO COUNTY

The following were elected at the annual meeting held at Hart, Michigan, December 18, 1930, for 1931: President, W. L. Griffin, Shelby; vice president, L. P. Munger, Hart; secretary-treasurer, F. A. Reetz, Shelby.

Fred A. Reetz, *Secretary.*

ST. CLAIR COUNTY

The first meeting of the year was held January 6 at the Hotel Harrington, Port Huron. Our new president, Dr. J. E. Wellman, in the chair. The meeting was such that the good doctor will have to "go some" if he keeps up the pace he has set for himself. No doubt the very large attendance was due to the fact that Dr. Angus McLean was on hand to give us something of himself as well as one of his much appreciated papers.

The following is an abstract of Doctor McLean's address on "History of Medicine and Surgery" from the early Egyptian and Greek periods—stating that certain principles introduced in ancient times are still followed. Alcohol was used and recommended in the cleansing of wounds by the Greeks and Romans many centuries ago. Later the French used boiled brandy along with hot oil for dressing wounds. These were attempts at sterilization.

In the past several years dehumanized medicine has been practiced in closed hospitals and by state organizations; that is, the patient is known as number so and so, the patient frequently not knowing the name of physician who treats him or her. Physicians on a salary soon lose sympathy with suffering humanity. A part of the medical profession of our state favor State Medicine. The cost to the state will be a barrier to its acceptance by the people. Should State Medicine be accepted each county will request a hospital. There are eighty-three counties in the state (three have hospitals), eighty counties requiring a hospital of 100 beds each—at a cost of $3,000.00 per bed—a total cost of $24,000,000.00 without equipment. The state is bonded to its limit at present. How could the money be raised? The interest on this amount at 5 per cent would be $1,200,000.00 per annum. Statistics show it costs $5.00 per day to maintain a bed or $500.00 per day each hospital; the annual total maintenance of hospitals is $14,400,000.00. If 4,000 physicians are employed at $10.00 per day each, the annual amount would be $14,600,000.00 or a grand total for interest, maintenance and physicians' salaries of $30,200,000.00 annually. This would be raised by increased tax, already overburdened. $10 per day is the minimum amount a physician could live on and keep automobile, phone, etc. In Michigan there are about 5,400 physicians. This would leave 1,400 to carry on their specialties and institutional work as at present.

The doctor was loudly applauded and a vote of thanks was given him.

Reginald Smith, *Secretary-Treasurer.*

ST. JOSEPH COUNTY

The St. Joseph County Medical Society held their regular meeting January 11, 1931, at the Klesner Hotel in Centreville. Despite the inclement weather there was an excellent attendance.

The minutes of the previous meeting were read and approved. Motion by Dr. C. G. Morris of Three Rivers as to quantity buying for the entire society was tabled until the next meeting. Dr. Morris then made his report as delegate of the State Meeting.

Following the business meeting Dr. Geo. C. Hafford of Albion, Councilor for this district, gave a very interesting discussion on the duties and aims of this office.

Election of officers resulted as follows: President, G. J. Sweetland, Constantine; vice president, F. W. Robinson, Sturgis; secretary, R. A. Springer, Centreville; delegate, C. G. Morris, Three Rivers.

J. H. O'Dell and R. A. Springer were reappointed on the Indigent Committee. Meeting adjourned.

R. A. Springer, M.D., *Secretary.*

WAYNE COUNTY

Professor James Ewing will present the 1931 Beaumont lectures for the Wayne County Medical Society, Monday, February 23, at 8:30 P. M., "Causation of Cancer"; Tuesday, February 24, 11:00 A. M., "Diagnosis of Cancer"; Tuesday, February 24, 8:30 P. M., "Treatment of Cancer." All members of the Michigan State Medical Society are cordially invited to attend the Ewing lectures.

Dr. Howard Fox of New York City will speak at a joint meeting of the Wayne County Medical Society and the Detroit Dermatological Society, February 3. The subject will be "Modern Trend of Skin Diseases."

The joint meeting between the Detroit Dental Society and the Wayne County Medical Society will feature a symposium by local physicians and dentists. The date will be February 10.

February 17 is the date set for a joint meeting between the physicians and lawyers of Detroit. The program of this joint endeavor will be announced at a later date.

Dr. F. C. Mann of The Mayo Clinic, Rochester, Minnesota, will speak to the Society, March 3. His subject will be "Physiology of the Liver."

On March 10, Dr. William Englebach of St. Louis will speak on "Endocrines."

A list of specialists and general practitioners of Wayne County is being compiled for use in the Executive Office of the Wayne County Medical Society. Every year, hundreds of calls are received from the public asking for lists of physicians, surgeons and general practitioners. This new list will aid in giving the citizens the authentic and reliable information they deserve.

The Noon Day Study Club, a very active organization of Wayne County physicians and surgeons under the age of forty years, has enjoyed a most unique experiment this year. The medical group, which meets Tuesday noon in the club rooms of the Society, and the surgical group which convenes at the same hour on Friday, has presented a postgraduate course in all the subjects of medicine and surgery. Large crowds have been in attendance at every meeting. In addition, the Noon Day Study Club has sponsored several well-attended social functions. The mixed bridge party of January 14 was attended by approximately 150 and was singularly successful.

The Cafe of the Wayne County Medical Society has been a great feature in attracting hundreds of physicians to the club rooms of the organization. During December, 1930, 2,395 luncheons, 231 dinners, and 138 suppers were served in the cafe. Members of the Michigan State Medical Society who are in Detroit during the noon hour any day are cordially invited to visit the cafe of the Wayne County Medical Society, 1124 Maccabees Building. A splendid luncheon in the company of your Detroit medical friends will be enjoyed. Doctors are urged to introduce themselves to the Executive Secretary, who will see that out-of-town guests are made to feel at home.

The Detroit Clinical Bulletin has been getting larger gradually so that on January 13 four entire pages were given to the listing of surgical operations in the city of Detroit. Individual copies of the Detroit Clinical Bulletin will be mailed to out-of-town physicians upon request. The Bulletin acts as a guide to physicians who visit Detroit for its postgraduate opportunities.

The Medical Library of Detroit is open on Wednesday and Friday evenings until 9:00 P. M. This new experiment was inaugurated January 7, 1931, through the efforts of Dr. Andrew P. Biddle, who has been recently elected as president of the Detroit Library Commission.

The delegates and alternates to the House of Delegates of the Michigan State Medical Society from Wayne County are elected at the meeting of January 6, 1931.

The active membership of the Wayne County Medical Society for 1930 was equal to the total number of physicians in the states of Idaho, Nevada, Arizona, New Mexico and Wyoming. This includes all physicians in these five states, whether they are members of the American Medical Association or not. The medical population of these states is as follows: Idaho, 393; Nevada, 130; Arizona, 411; New Mexico, 367; Wyoming, 232, or a total of 1,433 physicians.

The Bulletin of the Wayne County Medical Society annually contains 1,664 pages. This is equal to over five novels of the average length of 300 pages. Imagine writing more than five novels in three hundred and sixty-five days! Yet this is the work done by the Editorial Board of the Society and by the Official Bulletin Publishing Company, Chicago. The weekly issue of the Bulletin contains 32 pages.

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, President, Jackson, Mich.
MRS. J. EARL McINTYRE, Secretary, Lansing, Mich.

Will the County Societies please send in the names of the newly elected officers of their respective societies?

Yours respectfully,
Louise T. (Mrs. P. R.) Urmston,
Publicity Chairman.

JACKSON COUNTY

Mrs. L. J. Harris, our state president, left Sunday, January 10th, for Florida.

Recently the Jackson County Auxiliary were invited to inspect the new four story addition to the Foote Memorial Hospital, Jackson, Michigan, which has just been completed and opened to the public.

This new addition was erected and equipped at a cost of $200,000 entirely donated by two of our outstanding public spirited citizens.

The superintendent and nursing staff of the hospital invited the Woman's Auxiliary to the Jackson County Medical Society for a tour of inspection and tea.

An interesting afternoon was spent inspecting this new addition and equipment, and the pleasure of meeting the nursing staff was greatly enjoyed.

Mrs. Jason B. Meads, *Secretary.*

WAYNE COUNTY

We hold regular monthly meetings for the entire membership and their friends. The quality of the material presented has always been of the highest order. The program for January 13 included a talk by Dr. A. D. Pilades on the "Underprivileged Boy" and a talk by Dr. R. C. Jamieson on "Skin, Scalp, and Cosmetics." Dr. Pilades is president and director of the Boys Clubs of Detroit, and Dr. Jamieson limits his practice to dermatology. The program for February includes a talk by Judge Alfred J. Murphy. It will be a joint meeting with the Auxiliary of Oakland County.

In December the membership dressed dolls for the Goodfellows of Detroit. This was enjoyed thoroughly by all who participated.

Recently a "Student Loan Fund" for worthy medical students was established. Needless to say that its purpose was soon fulfilled.

We maintain a membership in the Michigan Anti-Narcotic Association, and have made substantial contributions in clothing and reading material.

Respectfully submitted,

Mrs. C. I. Owen,

Bulletin Editor, Wayne County.

BAY COUNTY

Mrs. Paul R. Urmston was re-elected president of the Woman's auxiliary of the Bay County Medical Society at their dinner meeting last evening at Virginia's Tea Shoppe. Mrs. J. W. Gustin was named vice president, Mrs. Roy Perkins, secretary, and Mrs. H. M. Gale, treasurer.

Covers were marked for twenty guests at the attractively appointed tables for dinner.

Four new members were also enrolled last evening.

The next meeting will be held the latter part of January at the home of Mrs. V. H. Dumond. Mrs. C. A. Steward and Mrs. F. S. Baird will be in charge of the program.

HIGHLAND PARK CLINIC

Everything possible was done by the Highland Park ladies for the entertainment of the visitors at the clinic held there in November and we wish to thank them for this pleasure.

A committee composed of the wives of members of the Highland Park Physicians Club entertained the visiting women; while their husbands were attending the Fifth Annual Clinic.

Registration was at the Nurses' Home of the Highland Park General Hospital, at which time one hundred and fifty registered.

Mrs. C. C. Vardon was the general chairman and was assisted by Mrs. E. G. Minor and Mrs. Charles J. Barone.

The registrants were taken to the Detroit Institute of Arts. Mrs. Don A. Cohoe was in charge of the transportation.

Professional guides were furnished to conduct the tour of the Museum. An hour musical was given in one of the rooms of the Museum. This was conducted by Mrs. W. N. Braley, who was assisted by Mrs. Tresa Way Merrill.

Mrs. W. L. Hulse, who was in charge of reservations for the luncheon, was assisted by; Mrs. E. M. Vardon, Mrs. H. B. Woods, Mrs. Cecil Mayne, Mrs. E. V. Mayer and Mrs. Roy Smith. Luncheon was served at the Ford Greenfield Village. The luncheon hostess was Mrs. G. Van Amber Brown.

Mrs. Frank Witter and Mrs. B. Friedlaender acted as the Hostess Committee.

After luncheon the women were guided through the Greenfield Village and the Ford Air Port, and in the evening met with their husbands for dinner at the General Motors Building.

After the dinner Mrs. Lester J. Harris, president of the Woman's Auxiliary to the Michigan State Medical Society, addressed the audience on "Activities of the Woman's Auxiliary."

All present enjoyed the delightful day and we hope to exceed this, next year, and have hopes of a larger attendance.

Minnie G. (Mrs. C. J.) Barone.

THE DOCTOR'S LIBRARY

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 14, No. 3, (Mayo Clinic Number, November, 1930.) Octavo of 261 pages with 50 illustrations. Per Clinic year, July, 1930, to May, 1931. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1930.

RECENT ADVANCES IN THE STUDY OF RHEUMATISM. Frederic John Poynton, M.D., F.R.C.P. (London), and Bernard Schlesinger, M.A., M.D. (Cambridge), M.R.C.P. (London). 25 illustrations. P. Blakiston's Son and Company, Inc., Philadelphia, Pa., 1931. Price $3.50 net.

This book takes up the problem of rheumatic disease under two headings, that is, acute rheumatism and chronic rheumatism. Under the acute form, particular attention is paid to the manifestations of the disease in children. The insidious onset of the disease is especially stressed. In this as well as the chronic form the generalized character of the process is emphasized and an effort is made to keep the physician from focusing his attention on the joint manifestations alone. The various methods of treatment are fully discussed, especially the more recent forms. The conclusions as to the value of the different methods of treatment are good evidence in themselves of the scientific and common sense attitude of the authors toward this complex subject.

THE STATE HEALTH DEPARTMENTS OF MASSACHUSETTS, MICHIGAN, AND OHIO. With a Summary of Activities and Accomplishments: 1927-1928. James Wallace, M.D., C.P.H. $1.50 Postpaid. The Commonwealth Fund Division of Publications, 41 East 57th Street, New York.

This is an analytical and comparative study of the organization and activity of three of the stronger state departments of health, made by the Associate Field Director of the Committee on Administrative Practice of the American Public Health Association.

Public health work is more and more subject to self-examination as a step toward greater efficiency. The Committee on Administrative Practice, representing active health workers, has set up yardsticks for the measurement of city and county health service and has applied them in many field studies. The present investigation was made at the request of a number of health officers who desired a similarly objective study of state programs. The Committee believes that this volume will prove useful for teaching purposes in institutions training men for state and local public health work, and may form the beginning of detailed studies of the individual functions of state health departments, out of which suitable standards for judging the adequacy of statewide services may eventually be developed.

TREATMENT OF EPILEPSY. Fritz B. Talbot, M.D., Clinical Professor of Pediatrics, Harvard University Medical School; Chief of Children's Medical Department, Massachusetts General Hospital. The MacMillan Company. New York. Price, $4.00.

This book on the treatment of epilepsy deals more particularly with the theory and use of the ketogenic diet. The author believes it has been successful in a large enough number of cases and over a long enough period of time to justify its use by the practitioner. The dehydration and other methods of treatment are also discussed, but in the author's opinion the dehydration method has not as yet been satisfactorily evaluated. The technics of both the ketogenic and dehydration methods are described in detail. There are many tables showing the caloric values and vitamin contents of the various foods and also many sample menus. One chapter is devoted to the discussion of the factors necessary for an understanding of the dietary treatment, which includes basal metabolism, protein requirements, vitamins, acidosis, ketosis, alkalosis and many other factors dealing with diet and growth. Aside from its special purpose this book is a source of much information with reference to diet and metabolism in general.

CHRONIC ARTHRITIS AND RHEUMATOID AFFECTIONS WITH RECOVERY RECORD. Bernard Langdon Wyatt, M.D., F.A.C.P., with the collaboration of Louis I. Dublin, Ph.D., and foreword by Dr. J. Van Breemen. William Wood and Company, New York. Price, $2.50.

In this book the author attacks the problem of chronic arthritis from the clinical and practical point of view rather than from the theoretical standpoint. He emphasizes early diagnosis and treatment and makes a plea for a more optimistic attitude in dealing with these patients. He emphasizes the fact that the various joint affections are manifestations of other more general disturbances in the body, such as metabolic changes, focal infection, etc. All methods of treatment are discussed and evaluated and are directed primarily toward increasing the patient's natural powers of resistance and toward removal of causes wherever possible. Diet, joint exercises, massage, sun baths and orthopedic measures are discussed in considerable detail. This book is not only intended for the general practitioner, but also for the arthritic patient. It is intended to assist in producing better coöperation between the physician and his patient without countenancing either self-diagnosis or self-treatment. It seems well designed for the accomplishment of such an idealistic purpose.

NERVOUS INDIGESTION. Walter C. Alvarez, M.D., Associate Professor of Medicine, University of Minnesota (The Mayo Foundation). Paul B. Hoeber, Inc., New York, 1930. Price, $3.75.

From the reviewer's point of view, this is one of the most interesting books that has yet appeared on a medical subject. There are several reasons why every physician should read it. In the first place it is written in an entrancing style with a vein of humor running all through it; the author is a person of wide experience not only as research student, but as praticing internist connected with one of the largest clinics (Mayo's) in the world. Thirdly, it deals with the art of practising medicine as much as with the science, affecting the field concerned, namely functional ailments of the alimentary tract. It is a good book to put in the hands of the young doctor beginning practice after serving his hospital internship where he has been brought continually in contact with disease having a demonstrable organic basis. The book is written with acceptance as fact that the symptoms of the patient suffering from nervous indigestion are as real as those produced by many organic diseases. The author has emphasized the importance of all those qualities in the physician such as insight, tact, patience and sympathy so necessary in the treatment of nervous indigestion. In the matter of treatment Dr. Alvarez disparages the routine use of roughage in the management of colonic stasis. In fact, the cases in which he would use it are limited in number. He is very explicit in the matter of thorough examination which would eliminate the possibility of any organic lesion, before concluding that the patient seeking aid comes under the category of one suffering from nervous indigestion. He condemns the daily use of laxatives in these cases. The author advocates the use where necessary of hypnotics and expresses himself to the effect that physicians are inclined to use them too sparingly, feeling that they belong to the

habit forming narcotic class, which the author claims is not the case. The last chapter in the book is made up of extracts from the writings of such men as Osler, Francis Darwin, Oliver Wendell Holmes, Richard Cabot, S. Weir Mitchell, John Brown, Francis W. Peabody and others which pertain to the subject of functional indigestion. The author evidently obtained a great deal of pleasure and satisfaction from the writing of this work inasmuch as we have read it with a great deal of delight. The print is good size, the paper first class quality, so that taken altogether we have a splendid specimen of the bookmaker's art.

CHRONIC ANTERIOR UVEITIS

M. N. Beigelman, Los Angeles, reports five cases of chronic anterior uveitis in which a thorough examination failed to reveal any other etiology of the uveitis except syphilitic infection In two cases some foci of infection were found, but their removal had no effect on the course of the uveitis. In view of the wide variety of ocular lesions caused by syphilis, he felt justified in assuming that the uveitis in these cases was also syphilitic in origin; that in all of the cases the general syphilitic infection was of long duration, from fourteen to thirty-two years. One patient presented early signs of tabes; another, those of progressive paralysis. The condition was obviously a late ocular complication in syphilis, quite different from the usual type of acute iridocyclitis in the secondary stage. In four of the five cases specific treatment was administered and, although it was conducted vigorously and for a prolonged period, no improvement could be noticed. Because of that, in two cases nonspecific therapy was resorted to with the most encouraging results. In one case the action of typhoid vaccine was obviously nonspecific. Some further elucidation of its therapeutic aspects seems to be advisable. The success of tuberculin therapy in one case brings up the question whether or not the uveal lesion was of a tuberculous nature, particularly because of the prevailing opinion that tuberculosis is the chief etiologic factor in chronic anterior uveitis. However, in this case the tubereulin test was negative, no evidence of systemic tuberculosis was found, and in the ocular lesion no clinical suggestion of tuberculosis, such as iris nodules or retinal perivasculitis, could be detected.—Journal A. M. A.

THE SEQUELÆ OF BILIARY TRACT INFECTION

John B. Deaver, Philadelphia, reports on the more important sequelæ of biliary tract infection in which the gallbladder has been considered as the center of attention. He states that some of the sequelæ of cholecystitis are loss of the function of the gallbladder, dilatation of the common duct, insufficiency of the sphincter of Oddi, gallstones, choledochitis, cholangeitis, hepatitis, biliary cirrhosis, pancreatic lymphangitis, chronic pancreatitis, carcinoma of the gallbladder, myocarditis, focal infection and pylorospasm. Consideration of this array of diabolic forces should be sufficient reason to make one appreciate the serious potentialities of infection of the gallbladder. To Deaver there seems no valid reason to withhold the help that surgery can offer. Improvement in surgical end-results will follow earlier intervention, that is, before the sequelæ of biliary tract infection have become established.—Journal A. M. A.

CLINICAL SIGNS OF HEART DISEASE

James B. Herrick, Chicago, asks: Why should not physicians employ in diagnosis the classification suggested by the Heart Committee of the New York Tuberculosis and Health Association, which is in conformity with the nomenclature for cardiac diagnosis approved by the American Heart Association? The case of aortic leak might then be called syphilitic aortitis with aortic regurgitation, cardiac hypertrophy, regular sinus rhythm, class 2 A; i.e., activity slightly limited. Here the etiologic and pathologic anatomic features are plainly set forth with the clinical and functional facts also considered. The case of mitral stenosis may be described as rheumatic mitral disease with stenosis, auricular fibrillation with activity seriously limited, classed briefly as class 2 B. Again, etiology, anatomic pathologic lesion and functional capacity are expressed. All of these features may with advantage be included in the diagnosis. In a discussion of clinical signs of heart disease with particular reference to etiology, the questions involved are difficult, the answers somewhat uncertain. Too many cases are encountered in which even with greatest care the cause of the cardiac symptoms may escape detection. But it is only by trial and search that knowledge will come. The search for causes, the comparison of results, together with statistical, clinical and necropsy studies, will enable one to be more accurate in the diagnosis than has been the case in the past. To be impressed by the lack of uniformity in diagnosis, one has only to go to the health department of any large city and look over the causes of death as recorded on the death certificates. Syphilis as a cause is rarely put down, largely because of the physician's desire to shield the reputation of the dead man and his family. Pericarditis, endocarditis and myocarditis and angina pectoris are in evidence. On the whole, the diagnoses are vague and lack uniformity. A statement on the death certificate as to the cause of the disease, or even that the cause was unknown, would be helpful. It would show to the student of statistics that this point had been considered and would permit of deductions that would otherwise be unwarranted. Herrick offers suggestions.—Journal A. M. A.

PROGRESSIVE NATURE OF CARDIAC FAILURE

C. Sidney Burwell, Nashville, Tenn., points out that it is obvious that the most successful method of preventing or postponing death from heart disease, is to prevent the occurrence, to reduce the severity or to shorten the duration of the conditions leading to heart disease. Speaking in general terms, this means the control of hypertension and vascular diseases of acute rheumatic fever, and of syphilis. The most effective way, then, to attack heart disease is to attack syphilis, hypertension and acute rheumatic fever. Recognition of limitations in controlling these conditions makes it clear that in the present state of medical knowledge it is not possible to make an effective attack on heart disease as a whole by preventing its causes. It is, then, urgently necessary to encourage investigation into the problems of its causes: hypertension, acute rheumatic fever and syphilis. Meanwhile physicians must do what they can by the application of what is known about them now. Once heart disease due to these or other causes is established, the rate of its advance may be retarded by wise care. By heart failure is meant a group of symptoms and signs dependent on congestion in various parts of the body. The development of the picture of congestive heart failure carries with it an extremely grave prognosis. Complete recovery is practically unknown and response to treatment, while often striking, is only temporary. The average duration of life after the onset of the symptoms of congestive cardiac failure is unpleasantly brief. Heart failure usually occurs in successive attacks which come closer and closer together and respond less and less to digitalis and other

therapeutic means. The functional changes in the heart muscle may well become irreversible as the condition progresses, but there is reasonable ground for hope that in the early days or weeks of failure they are reversible. The problem is, then, to seek out the change or changes in the heart muscle that lead to failure, in the hope of being able to reverse them. Burwell points out the limitation of the present-day methods of the treatment and prevention of heart disease, to establish the point that this limitation is due to ignorance of certain fundamental factors involved, and to suggest certain promising lines of investigation along which useful advances may be made.—Journal A. M. A.

PREDICTS CANCER CURES WILL REACH 60 PER CENT

More than half the cases of cancer will be cured, instead of less than one-tenth, when the public has learned to seek an examination at the first warning sign, according to Dr. Joseph Colt Bloodgood, of the Johns Hopkins University. If this education of the public is carried to its possible limitations, cancer of the skin and mouth certainly and cancer of the cervix probably will be placed among the preventable diseases. This does not mean that there is any new cure for cancer. It rests simply on the application of what is already known. "We have no cure for cancer to announce," Dr. Bloodgood said. "The only treatments for cancer today that are established are surgery and irradiation by X-rays and radium. Nor has there been discovered any differential stain for the cancer cell, nor any other method for its recognition beyond the microscope and the X-rays. There is yet no blood test for cancer similar to the Wassermann test for syphilis or the metabolism test for toxic goiter. Nor are we any nearer, apparently, in the discovery of the exact cause of cancer which might lead to a preventive or curative treatment as we have now for diphtheria."

The necessity for a nation-wide cancer survey, such as the Harris resolution now before the Senate would make possible, was stressed by Dr. Bloodgood. In spite of the fact that the physician is seeing the cancer patient earlier today than formerly, and that he is better able to treat cancer, the number of deaths from cancer is increasing. The reason for this would be determined by the survey. Education of the public must go on. Likewise the physician must be educated to recognize cancer in its earliest stages, when it is most readily cured. The development of a stain that would differentiate the cancer cell from other cells would greatly facilitate early diagnosis. Better methods of diagnosis are particularly important in the borderline cases, where correct diagnosis may save the patient a distressing and possibly a mutilating operation. The borderline cases are very often found in tumors of the breast.—Science Service.

ERNST FUCHS

The death of Hofrat Prof. Ernst Fuchs of Vienna in his eightieth year removes one who had come to be known as "the grand old man" of ophthalmology. Few can have had a wider circle of friends and acquaintances, and many, in countries as far apart as Austria and China, India and America, will feel sad that they will see him no more. His dinner parties at his delightful home in Vienna in pre-war days were usually of the nature of an international gathering. Fuchs was an excellent linguist and an ideal host. A great traveller, there can be few countries of any note he had not visited. He was a very hard worker and a prolific writer. His Text-book of Ophthalmology, one of the best medical text-books ever written, has run through some dozen German editions, half a dozen English ones, and has been translated into many other languages. Fuchs, like many great men, was a very humble one. He would ask anyone working in his clinic who possessed special knowledge to impart it to him. He would discuss sympathetically any difficulty or problem with those far inferior to himself in knowledge and give of his best to them. Few, if any, students left his clinic without a feeling of regret and a real affection for the man himself. Fuchs was formerly a wealthy man but the war left him impoverished. How he faced that difficulty at an advanced age, and overcame it by working abroad, is a testimony both to his personal courage and to the esteem in which he was held outside Austria. In this country his name will be put in the niche of fame alongside those of Bowman, Donders, von Graefe, and Nettleship.—The London Lancet.

HABITUAL DISLOCATION OF THE SHOULDER

Melvin S. Henderson, Rochester, Minn., reports forty operations on thirty-seven patients. Anterior capsulorrhaphy, done on sixteen patients for anterior recurring dislocation, resulted in cure in 37.5 per cent; all of these operations were done more than ten years ago. Three patients who underwent posterior capsulorrhaphy for posterior dislocation remained well. Of eight patients who underwent Clairmont operations more than five years ago, 50 per cent were cured. Tenosuspension performed on ten patients has resulted in cure in 100 per cent of cases to date; in two cases the operations have been done for more than five years; in two, for more than three years; in one, for more than two years; in two, for more than one year; in two, for more than eight months; and in one, for more than six months. The success of the operation depends on the careful placing of a strong piece of the tendon of the peroneus longus muscle to act as a suspension ligament through drill holes in the acromion process and the head of the humerus. The incisions can be kept small in size, which is a worthy consideration in women.—Journal A. M. A.

LEPROSY ARRESTED BUT NOT "CURED," EXPERT SAYS

Patients discharged from the leprosy hospital at Carville, La., cannot be spoken of as "cured" of leprosy, states Dr. O. E. Denny, commanding officer of the Carville Leprosarium. Dr. Denny told the House Appropriations Committee at Washington that 75 patients had been discharged from the Carville institution as arrested cases, and no longer any menace to public health. A few of the discharged cases go back into active life, he said, and about 50 per cent of those discharged go back to their families. The others have no place to go, or their families do not want them, "and we have accepted those back into the hospital for the rest of their lives. . . . When we send these out, many of them are absolutely unable to take care of themselves. We cannot speak of them as cured. We have not restored any functions. We have simply discharged them as being no longer a menace to public health." —Science Service.

"Few would, I think, deny that what we call professional standards (professional ethics), the sense of esprit de corps, the realization that its members owe to the community something more than the qualities for which payment can be exacted, these things are born of the large degree of freedom to define their own life the professions enjoy."—Liberty in the Modern State, by Harold J. Laski.

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CONTENTS

The Achievements of Modern Medicine. B. R. Corbus, M.D. 123
Shall It Be Radium or Surgery in the Treatment of Uterine Fibroids. H. W. Hewitt, M.D. 129
Bilateral Hysterical Mastoiditis. Carl McClelland, A.B., M.D., F.A.C.S. 131
The Hard-of-Hearing Child and the Deaf Child. Emil Amberg, M.D. 135
Progress in General Medicine. William Northrup, M.D. 139
The Blind Spot and Its Pathological Significance. Raymond J. Sisson, M.D. 142
Serum Reactions. With Report of a Case. Elmer L. De Gowin, M.D. 145
Pyrifer in the Treatment of Locomotor Ataxia. I. L. Polozker, M.D., and Ira M. Altshuler, M.D. 148
Sinusitis in Children. S. E. Barnett, M.D., F.A.C.S. 150
Intussusception of the Bowel with Overshadowing Neurological Symptoms: A Fatal Termination with Autopsy. Report of a Case. William M. Donald, M.D., and H. L. Perlis, M.D. 154
The Doctor's Log. 1930. W. J. Stapleton, Jr., M.D. 155
Famous Men in Medical History: An Appreciation of Sir William Osler. Don M. Le Duc, M.D. 169
Panoramic View of the Woman's Auxiliary to the A. M. A. 1. The Eastern District. Mrs. W. Wayne Babcock 175
Michigan's Department of Health. C. C. Slemons, M.D. 176
Of General Medical and Surgical Interest 179
Editorials:
Care of the Indigent Sick 181
Dr. Peterson Honored 181
Why Newton? 182
The American Medical Association 183
The Tercentenary of Quinine 183
If Not Charity What Is It? 184
An Optimist 185
Inviting Liability 185
Communications 187
General News and Announcements 188
Society Activity 191
Minutes of the Mid-Winter Session of the Council of the Michigan State Medical Society, January 21, 1931 198
Proceedings, Annual Conference of County Secretaries of the Michigan State Medical Society, Michigan Union, Ann Arbor, January 22, 1931 217
County Societies 251
Woman's Auxiliary 253
The Doctor's Library 254

THE ACHIEVEMENTS OF MODERN MEDICINE*

B. R. CORBUS, M.D.†
GRAND RAPIDS, MICHIGAN

A few years ago a group of doctors from all over the world gathered at St. Pauls in London, to hear a sermon by Dean Inge. The Dean met them with these words: "I greet you as defeated captains. You are always doomed to final failure in your encounters with disease." True enough, but we are meeting the enemy more successfully than ever before in the history of the world, and though still doomed to final failure (and who would have it otherwise), that finale is put off longer and longer.

Our grandfathers classified most diseases by their characteristic symptoms and treated these symptoms. It was the era of empirical medicine. Many of these men were good observers and good clinicians. Their success in handling the patient and his disease was often remarkable. They knew the art of medicine. Their appreciation of the fact that the patient and his disease are one and not individual entities, is worthy of emulation by some of our more modern clinicians who practice the science

*An address given before the Grand Rapids Torch Club, a group of men representing the various professions.

†Dr. Burton R. Corbus is a graduate of the University of Illinois Medical School of the class of 1900. He is a member of the American Gastro-enterological Association as well as the American College of Physicians. Dr. Corbus is chairman of the Council of the Michigan State Medical Society. This paper was presented before an aggregation of professional men. It is of special value at this time when the status of the medical profession is being so widely discussed by the lay press.—Ed.

of medicine with too little appreciation of the art. But epidemics were still looked upon as due to an "Inscrutable Providence." The pulpits of Scotland were still thundering their denunciation against Sir James Simpson and his advocacy of the use of chloroform in childbirth. Charms and amulets to ward off disease were still in favor among a not inconsiderable number of intelligent people. Modern medicine, as we know it, had not yet been born. It is a bit hard to realize that anesthetics, modern aseptic surgery, and in general the recognition of specific bacteria as the cause of specific disease, are the product of the past one hundred years.

Today, defeated we may be, but we are optimistic. If Dr. Alexis Carrel of the Rockefeller Institute can keep the cells of a chicken embryo heart alive and pulsating for more than sixteen years, by furnishing proper nutrition and washing out the poisons produced in the life processes from time to time, it may be, and it is so claimed, that body cells are potentially immortal. It may be that there is nothing in man's body which actually wears out, and that we do, indeed, all die accidental deaths, looking at bacterial infection and the various toxemias as truly accidental as an automobile collision.

We may well be optimistic as we look back over these past years and note the wonderful progress of medical science. The one fact that a child born today may expect to live more than two decades longer than his grandparents, in itself speaks volumes for this progress. The expectancy of life is now about sixty years in this country. In 1910, in Massachusetts, it was fifty-one; in 1890, it was forty-three; in 1789, thirty-five years. In Geneva, in the sixteenth century, it was fifteen and one-half years.

This increase in the expectation of life has brought new problems not only into the field of medicine, but into the field of sociology and economics as well. The occasion of this most gratifying increase in the expectation of life lies very largely in the prevention of the high infant mortality of earlier years. This has been accomplished partly through the instruction of the mother in regard to feeding, but more through constant watchfulness and insistence upon the purity of the water and milk supply.

Equally satisfactory has been our progress in the prevention and treatment of such communicable diseases as typhoid fever, smallpox and typhus. Prevention of these diseases is infinitely more important than their successful treatment, for few attacks of these diseases fail to leave some mark on the constitution of the recovered individual. It is self-evident that the child saved from death by skillful treatment is likely to be less sound than an individual sound from birth, and we will do well to note that the preservation of the weaker does not lead to a Spartan type of race.

The increase in the expectancy of life brings with it still another problem. There are more and more men and women coming to what we are pleased to style "middle age," and with middle age come certain degenerative diseases. To those of us who are in this period of life it is depressing that we are forced to acknowledge that senescence has begun. To battle these degenerative diseases is the problem that is just now engaging the attention of investigators.

I may only briefly sketch the great accomplishments that scientific medicine has made even in the little span of your life and mine. The day of guesses, of charms and amulets and incantations to drive away the attacking devils, of treatment based on symptoms alone, has given way, at least to a large extent, to the truths of modern medicine, the foundation of which rests on science, applied science from the laboratories bacteriological, biological, biochemical, chemical and physical, wherever research directly or indirectly concerns itself with the human body and disease.

It is by the application of these scientific achievements that society is protected from the devastating epidemics, the plagues of the past. The work of Gorgas in making the Canal Zone a safe place in which to live and work, stands out as the supreme example of what can be done where conditions permit authoritative control, and where there is intelligent utilization of medical science and its proven truths.

We doctors are sometimes criticized by the laity for being over-hesitant in taking up new discoveries. Bear with us a little, for we know, by sad experience, how transient is the vogue of many remedies; how frequently we have been led astray by plausible but mistaken theories which have been presented to us as facts. To make a theory a fact often requires that the experiment be repeated over and over again. If it is in

the realm of therapeutics, only the application to many, many hundreds of patients will prove its merit. The desire to do something more for his patient is dominant in the mind of every doctor. Sometimes, I must admit, it is to do something that the other doctor has not done; something spectacular; something to impress the patient. All too often this leads to an experiment with the new and untried, to the great detriment of the patient, and occasionally to actual disaster. So do not blame us too much for being conservative. Conservatism, after all, makes for safety.

Yet we do recognize the fact that there is some occasion for criticism. That the way is long, too long, from the laboratory to the general utilization of the discovery made therein, is a concern which is shared alike by the leaders of the profession and all health authorities. Still the profession is usually not so much to blame for this as is a resistant or indifferent public. As an example of this delay, diphtheria toxin-antitoxin has been known for twenty years, and its efficiency and safety demonstrated for nearly as long. Yet today only a meager percentage of the children of this country are protected against this dread disease. Grand Rapids is an especially favored community. An efficient health commissioner, with an aroused public opinion behind him, using toxin-antitoxin generally among school children, has reduced the mortality and the morbidity of diphtheria to practically nil. In other communities health commissioners and health boards have been less alive to their responsibilities. A serious epidemic may be just around the corner. A letdown in many a direction may open the door to serious trouble. Just now, for example, the state commissioner of health is concerned over the fact that in the absence for some years now of any considerable number of smallpox cases, there has been a neglect of general vaccination. While this is especially true of certain communities, we may all of us have to pay dearly for this laxity.

The greatest protection we have is an aroused public opinion, and public opinion is to be developed only through education. It is ever a problem to gain the full coöperation of the public with health authorities, and the education of the laity must not stop with that education necessary for them to protect themselves from each other in the communicable disease field. There are problems almost as important and even more individual—the facts of hygiene, the simple unadorned fundamental laws of health, the feeding of the child, the care of the teeth, even such a fundamental thing as the actual recognition of ill health.

Dr. Franklin Martin, president of the College of Surgeons, in his presidential address, said:

"The public should know what we know—that in a large number of our states individuals are licensed to practice the healing art who are utterly ignorant even of the barest fundamentals of scientific medicine; cultists, some of whom have not even a rudimentary knowledge of the basic sciences, of anatomy, physiology, chemistry, bacteriology, pathology, diagnosis, or the other primary essentials of a medical education; cultists, some of whom utterly ignore or denounce the necessity of possessing any knowledge whatsoever of these indispensable requirements. The various cults, under sundry names, have gained the sympathy of legislatures. By subtle sophistry, they have passed laws which require farcical examinations in one or another pathy or cult, authorized license to practice medicine or even surgery, and have caused them to be recognized as legal practitioners of the healing art, with all of the rights and privileges of the scientifically educated physician.

"Of the forty-eight medical practice acts authorized by the individual states of the United States, only five require that an indivdual, to be licensed to practice the healing art, shall show, by examination, that he has a knowledge of the basic sciences upon which, obviously, the practice of the healing art should be grounded. This means that in the other forty-three states of the United States not requiring the basic science examination, only the graduates in scientific medicine meet these qualifications."

The Michigan State Medical Society has, for the past ten years, concerned itself with some of these problems. As one of the officials of the society I have, during this period, been in close touch with the efforts that have been made to help solve this problem through bringing a knowledge of these matters to the laity. Some years ago we induced the University of Michigan to aid us, and now, through the committee on Public Health and Education, using the machinery of the Extension Department of the University, with funds furnished by the State Medical Society, the State Dental Society, the State Hospital Association, and similar organizations, speakers are sent out through the state, to Parent-Teacher Associations, to Grange meetings, to Rotary Clubs, wherever there is a demand for such a talk, in hamlets and in cities, in the schools of Grand Rapids, Flint, Detroit and a few other cities, with especially planned programs, meeting, in the course of the year, thousands of people. The figures for last year were 157,000.

The committee has other activities of a similar character, the purpose being the dissemination of knowledge bearing on the health of the community and the individual. In addition the Michigan State Medical Society has, for some years, made an effort to bring post-graduate work to the doctors of the state. Our special aim is to bring to the doctor in the small city or community the newer proved things in medicine and surgery, and some of the older things, too, that we fear may, in his mind, be rusted, that he may more intelligently, more satisfactorily and more efficiently treat his public. The State Board of Health affiliates by loaning us, frequently, one of its efficient officers to talk on the problems of contagion and sanitation, that ill health may be prevented and good health maintained in that community.

Each year brings some new discoveries in medicine, or the new application of some earlier determined facts. I am safe in predicting that the progress in the next ten years will exceed the last decade. Occasionally we find heretofore unrecognized diseases, and immediately the forces of private and state laboratories are put to work to produce a remedy for that disease. More often it is a new remedy for a disease long recognized, with the remedy based on newly determined physiological and pathological facts. Such remedies come, sometimes, with almost startling suddenness. This was the case in the use of liver in that comparatively rare type of anemia known as pernicious anemia. The University of Michigan had given to it a beautiful building for research on anemias, and the special occasion of the gift was the desire of the donor to help in the combat against pernicious anemia, a disease which had heretofore proved fatal. Before the Simpson Memorial Institute for Anemia Research was in operation, it was announced that the taking of a pound of liver a day would frequently cure, and in most cases would prevent the progress of this disease. The Institute, under Dr. Sturgis, has played an important part in developing and proving the efficacy of this new remedy. Further research has shown that pernicious anemia must be put in the class of deficiency diseases, and from the liver is obtained an extract, a few grains of which is as efficient as an entire pound of whole liver.

It was only a few years ago that a young man of London, Ontario, unhandicapped by overmuch knowledge of past experimental work along similar lines, had an idea which he and his co-workers successfully developed in the laboratories of the University of Toronto. The result was "insulin," a substance found in the pancreas and in the muscles of the body, the lack of which results in diabetes. Dr. Banting, rushing in where others with a fuller knowledge failed to tread, emphasized the fact that diabetes is a deficiency disease, and gave the world a remedy which, in the trained professional hand, will keep the majority of diabetics efficiently well.

I dare say that there are few of you who fully recognize the importance of the U. S. Public Health Service and the protection that is given society by the work of their investigators. You think of them as taking a leading part in the presence of some of our past epidemics. You know something of the campaign against yellow fever and hook worm, but all the time this department, utilizing the work of their own laboratories and the work of the laboratories of the world, stands between us and danger. I became most acutely conscious of this through the contact that I had with the Department at the time of the serious spinach poisoning, at Blodgett Hospital in 1922. You will remember that we had some twenty-nine instances of spinach poisoning (botulism), from which there were three deaths. In a certain number of the other cases, death was surely prevented by the use of a serum which had been developed for animals by Dr. Graham of the University of Illinois. We believe that this occasion was probably the second time that the serum had been used on humans.

Botulism is a very serious type of food poisoning. An entire family died of it only recently, in Montana. Canned goods are used generally throughout the world, and yet there has not been a single case of botulism reported since 1925, which came from commercially canned products. From the thoroughly equipped laboratories of the American Canning Association and the Public Health Service, come rules for processing that prevent contaminating bacterial growth and assure the product reaching the consumer in perfect condition.

A few years ago the Public Health Serv-

ice was called in to study an epidemic which was killing the rabbits of Tulare County, California. In the course of this study, two of their investigators came down with an unusual disease. It was this same disease that was afflicting the rabbits on which they were working. With this proof that the disease could be carried to man, its importance immediately increased. It was given the name "tularemia." While it is carried by flies or ticks usually, infection may also, and frequently does, take place by direct handling, as in the cleaning of the wild rabbit. The mortality among humans is not high, but it is of concern because it is rapidly spreading all over the country. We have had a number of cases in Michigan. There was quite a large group of cases in Ohio, and hardly a state has been exempt, though special precautions have been taken to prevent the spread of the disease as its increasing seriousness is recognized.

Psittacosis, "parrot's disease," has recently come into prominence. Most of us had never heard of it. There were some deaths in Pittsburgh a year or so ago, which went rather unnoticed, but early this year a man died of this disease on board ship in Boston Harbor. The boat carried a shipment of parrots from South America, and these birds were sick with a communicable disease which investigators had long ago shown could be transmitted to man. The incident developed dramatic elements when several workers in the laboratory of the Public Health Service, investigating this affair, came down with the disease. All were threatened with death and several died. The germ of the disease occasions a pneumonia of the most serious character, in which the mortality is extremely high.

I have discussed these two or three diseases, perhaps relatively unimportant, partly because they are of general news interest, as newspaper men would say, but more to indicate to you that scientific medicine in one way or another is continually on the job. One disease after another gives way as new discoveries are made in the laboratories of the world, and that knowledge is promptly applied. A continuous attempt is made to protect society from the infectious diseases, both new and old. No longer is diabetes a dread disease. Tuberculosis, the great white plague, no longer leads the list in the mortality tables. To have typhoid fever in any considerable numbers is a disgrace to any community.

Optimistic we may well be as we survey the achievements of the past and look forward to the probable achievements of the future. We will even hope that the future may bring to us some further knowledge which will help us to more successfully treat that dread disease, cancer. This disease has so far largely blocked the efforts of the scientists. As Dr. Warthin, of the University of Michigan, who, we doctors consider, may speak with authority, puts it—"The therapeutic attack on cancer is faced with what seems an unsurmountable barrier to its success in that cancer shows no tendency to self-healing. Against cancer the body defense mechanisms are powerless. This fact, in itself, places cancer wholly apart from other diseases. In the treatment of cancer, therefore, we must then reckon with the fact that it will receive no support or aid from the curative or corrective powers of the body." Cancer, in its beginning, is a localized disease, and, so far as we now know, can only be cured, and that only in its early stages, by complete eradication. The safety of the race rests in the fact that cancer is easily bred out. Were we dealing with animals, the problem of the control of cancer would be extremely simple, but the practical application of eugenics in the human is, in any large way, quite unattainable.

With this note of pessimism in an otherwise optimistic outlook, I would turn, for a few minutes, to a more personal problem —to the consideration of the health problem presented by the man of fifty and over. It is a subject which should appeal to most of us who are here tonight. We all would live long—as long, certainly, as we can be reasonably efficient and happy. How are we going to do it? Science gives us no fixed rule that we may follow. We do not even have an even chance one with another in the race. Science says that if you would live long, choose your parents carefully. Heredity is the important thing. A study of the genealogy of the Hyde family, by Dr. Alexander Graham Bell, showed that of the children of parents who had lived to be eighty years old, the average length of life was twenty years longer than the mean age of that family's population when the parents had died under sixty. Although the

expectancy of life at birth has increased, man is not living to an unusually advanced age more frequently in these days than in the past. As a matter of fact the expectancy of life at fifty is slightly less than it was a decade ago.

But do not let this worry you unduly. We are fortunate that we live in an age when the group is so large. Relatively more people are coming to fifty than ever before in the history of the world, but the group does not reflect the survival of the fittest in the same degree as in earlier years. Degenerative diseases are more common just because people live long enough to develop such diseases, and it is sheer mathematics that bring such degenerative diseases as diseases of the heart and arterial system to the top of the actuarial mortality tables today. To increase the span of life at this, the most valuable period of man's activity, is the outstanding problem in medicine. No one familiar with the wonderful advances would question that out of the laboratories of the world will come, from time to time, new discoveries whose application will add a year here and a year there until finally we may expect to find the average of life approaching more nearly to the century mark. Someone has said, "Undoubtedly the substances that control degenerative diseases are right now in the making." But you say, "Granted, but what about me? What may I do to carry on efficiently for at least another quarter of a century?" With your doctor's help I feel confident that you can do much. You may not escape the degenerative diseases. A certain organ weaker than the rest may the sooner wear out, but the progress of that disease may be favorably influenced by you under the advice of your doctor. The first step in this plan of yours to live long is to have the fact that there is a weakened organ in your body recognized. This necessitates an examination, to be followed by other examinations from time to time.

Periodical examinations by the competent, understanding man, will pick up many a minor defect whose correction should bring you a gain in good health. But more than that, the symptoms that you may look upon as minor may be significant of a disease in its very infancy. A recognition of this fact might well offer the chance of checking or curing the disease. Suppose your family doctor does find that you already have some one of the degenerative diseases. Dr. Osler used to delight in saying that if you really wanted to live long you should develop in middle life one of the so-called serious diseases. He loved to tell how this man and that man had come to him with a chronic disease of the heart or the kidneys or what not, and, forced to limit his activities, to control his appetites, in general to follow the rules of individual hygiene, had continued to carry on important active business and professional lives, and lived to see their apparently healthy contemporaries pass, one by one, out of the picture.

Several of the prominent life insurance companies now offer free annual examinations to their policy holders. They find that it pays. I have no recent statistics on hand, but the Metropolitan Life Insurance Company showed, in a study of six thousand examined policy holders during the years 1914 to 1924, a reduction in death rate of eighteen per cent as compared with their general death rate. The Guardian Life Insurance Company, among three thousand during the same years, showed a mortality reduction of twenty-three per cent.

I like the terms health audit and health inventorium. Somehow they seem to "get over" better with the average business or professional man. So I commend to you most emphatically, if you would live long, the idea of having such an audit, such an inventorium, on your birthday. The task of prolonging your life is essentially a job for *you*. It frequently means restrictions here and there not altogether pleasant. Pride of youth or seeming youth impels many a man to carry an unnecessary load. Seventy, seventy-five, even eighty is by no means necessarily associated with lessened mental capabilities or lessened value to society, but if you are to be efficient at these ages it will be because you have, in middle age, begun to cut your pattern to your cloth.

As a further suggestion I read you this extract from "Paradise Lost":

"If thou well observe
The rule of 'Not too much,' by temperance taught
In what thou eat'st and drink'st, seeking from thence
Due nourishment, not gluttonous delight,
Till many years over thy head return;
So mayst thou live, till, like ripe fruit, thou drop
Into thy mother's lap, or be with ease
Gathered, not harshly plucked, for death mature."

SHALL IT BE RADIUM OR SURGERY IN THE TREATMENT OF UTERINE FIBROIDS*

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Uterine fibroids are perhaps the most common of all tumors. The etiology of these growths is unknown, but it is generally conceded that they begin as congenital tissue rests in the uterine body. As a rule these neoplasms are poorly supplied with blood and their growth is dependent upon the relation of the tumor to the uterine circulation. Uterine contraction is involuntary and continuous, and this force evolves the growth in the direction of least resistance. As the tumor moves toward the endometrial or serous surfaces, the blood supply is carried with it. Bleeding as a symptom is dependent upon the relation of the tumor to the endometrium. Radio-therapeutic agents by obliterating the capillary circulation reduce the blood supply of these tumors. Largely upon these principles the indications for treatment are determined. Three methods of treatment stand out as worthy of consideration:

1. Surgery
   (a) Myomectomy
   (b) Hysterectomy
2. Radium therapy
3. X-ray therapy.

Until 1910, or thereabouts, the only treatment worth while was that of surgical removal, and surgical removal still has its indications. Surgery, however carefully and skillfully done, will always carry with it a definite mortality; also a morbidity, which, while small, still constitutes a factor not to be ignored. Confinement in the hospital is prolonged, and occasionally complications follow which leave something further to be desired in the way of an end-result.

Radium, on the other hand, is productive of no mortality, an insignificant morbidity, and the patient is not required to remain in the hospital longer than three to five days. Radium must be used only in carefully selected cases; the same may be remarked of X-ray. It is an illusion, however, to beguile patients by attempting to impress upon them the information that X-ray therapy for uterine fibroids is only an office procedure. All well-informed roentgen ray therapists are cognizant of the fact that an accurate diagnosis is a very important factor, and this entails a careful examination by a competent gynecologist including D. and C. for the purpose of excluding corporeal carcinoma.

Because of the fact that the surgical treatment of uterine fibroids is a comparatively well settled problem, discussion of this subject resolves itself largely into one of the merits or demerits of radium therapy as applied in the treatment of this type of neoplasm. Clark (John C.) has stated that radium should be used only in interstitial fibroids not larger than a four months' pregnancy, in women in or approaching menopausal years, with hemorrhage as the most prominent symptom; this is his rule, but there are exceptions to all rules. Burnham has obtained excellent results in fibroids much larger than the size above stated.

A number of authors, in giving indications for radium in the treatment of benign uterine growths, state in substance as follows: radium should be used in all interstitial tumors, also in all fibroids regardless of size, where tuberculosis, cardio-renal, diabetes, or any other constitutional disease would contraindicate surgical removal. The indications for radium therapy are becoming broader. Old pelvic inflammatory disease has been overstressed as a contraindication. The writer desires to add another indication for radium therapy; it is a well-known fact that where hemorrhage has depleted the patient, hysterectomy or even myomectomy are badly borne. In this particular type, radium will control the hemorrhage, particularly if the vagina is kept tightly packed with gauze. After the hemorrhage has been controlled and the patient's blood has been restored to normal, surgical procedure may be undertaken if deemed advisable. In most instances it is much easier

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to induce patients to submit to radium therapy than it is to prevail upon them to undergo a radical abdominal operation. Then, too, the mortality from hysterectomy will range from 2 to 10 per cent, that of myomectomy will average 1 per cent, while radium will give a mortality of 0.18—practically zero, and in intramural fibroids the results are better with radium. Reduced to a practical basis the indications and contraindications for radium and surgery are as follows:

Radium

1. In intramural tumors not larger than a four months' pregnancy, in women at or near the menopause.

2. In patients whose physical condition has been depleted by hemorrhage and in all patients where surgical measures are contraindicated.

Surgery

(a) Myomectomy

1. In young women where child-bearing is an important consideration.

2. In all women where it is desirable to preserve ovarian function.

3. In cases where other abdominal pathology necessitates a laparotomy.

(b) Hysterectomy

Patients for hysterectomy should be in good physical condition before this procedure is attempted. Bearing this in mind, hysterectomy should be performed:

1. Where tumors are large.

2. Where tumors cause pressure symptoms.

3. Where degenerations have taken place.

4. Where tumors are of the subperitoneal or submucous type.

5. Where adnexal disease has been diagnosed.

6. Where corporeal carcinoma is known to be present.

7. In cases where doubt exists as to the accuracy of diagnosis.

Thus it is apparent that no competition exists between radium and surgery in the treatment of uterine fibroids; each has its own indications. The gynecologist who is equipped to treat uterine fibroids with either radium or surgery will be much more successful than the one who depends upon either procedure alone.

DISCUSSION

Dr. George Kamperman (Detroit): Dr. Hewitt's résumé of the contraindication and indication for the various types of treatment of fibroids has covered the field very well.

It seems to me that there are a great many angles to be considered when one tries to calculate as to why we use a certain treatment. Dr. Hewitt says that it is easier to convince the patient that she should have radium than that she should have a major operation. My feeling is that that is oftentimes the indication for the surgeon using radium, since he knows the patient will consent to that and will not consent to surgical treatment.

We have seen numerous cases in which we feel surgery should have been done and have refused to consider radium treatment, but the radium was dreaded less and the patients went where they could get it.

I have a patient under consideration right now who has a fibroid, irregular and large, and I think she should have surgery. She is debating. I feel almost sure that she will go where she can obtain radium because she prefers that. It seems a little less of a procedure to her and there will be someone ready to use radium.

My feeling is this, if we want to use radium for fibroids we must have our indications and contraindications very well in mind. As Dr. Hewitt outlines in his paper there are certain types of cases that need surgery and for those cases it is a mistake to use radium.

Among the contraindications to surgery have been mentioned certain conditions where the anesthetic becomes a question. That may be so in certain cases of diabetes and in cases of heart disease and in cases with very high blood pressure. But we must not forget that with the use of radium we have to use an anesthetic anyway and in a great many of those conditions it isn't the operation that is dangerous as much as it is the anesthetic. We still have to use an anesthetic even though we treat with radium.

I agree with Dr. Hewitt that there is a great field for radium and that the field is growing. Oftentimes the objection to radium on the part of the surgeon may be an alibi that is sometimes given the patient by one who wants only to operate. The patient is often told that she will have all sorts of trouble after radium. The surgeon who wants to operate uses such propaganda as his means of convincing the patient that the operation is indicated.

Dr. J. M. Pierce (Ann Arbor): I quite agree with Dr. Hewitt that there are many cases that should be treated by radium rather than surgery. I feel that first of all the patient who is a poor risk for any type of operation should be treated with radium.

We see many patients in the university hospital who, upon admission, have very low hemoglobins, some of them as low as 30 per cent and some only 18 per cent. It is impossible to operate on those people for a long time. They can be treated by radium. Their bleeding stops and their hemoglobin can be built up to a point where either surgery or more radium therapy can be considered.

I think there is a great field for the use of radium, but one should be careful because we have had cases in which there has been sloughing of the fibroid from the action of the radium. With the slough there has been hemorrhage, so we are very careful about the type of tumor that we treat with radium.

I think the diagnosis of the type of fibroid and the experience of the surgeon have a great deal to do with the method of treatment to be used.

Dr. Herbert W. Hewitt (closing): Dr. Kamperman and Dr. Pierce have stressed the point I desire to bring before you, viz., accuracy of diagnosis of different types of fibroid tumors.

Any fibroid of the submucous type will slough, if radium is applied; there is no question about that; this type may be treated by surgical measures with better results.

In regard to Dr. Kamperman's remark about the fact that it is much easier to convince these patients of the safety of radium treatment, I wish to state that this is true; I agree with him, also, that radium therapy is much easier; but these facts alone should not govern the surgeon in his choice of treatment. The indications I have outlined have been proven by years of experience, and may be found in radium textbooks. Hysterectomy and myomectomy have been very satisfactory operations, the mortality of both being comparatively low, if in experienced hands.

I still feel that radium is much safer in the selected types, such as the interstitial type of fibroid, which has a tendency to grow toward the endometrial surface.

I have forty-seven such cases in my series. I did not report these, because I have been unable to trace a sufficiently large percentage of them. I do feel, however, that in the properly selected type of fibroid, radium not only gives better results, but is much safer.

BILATERAL HYSTERICAL MASTOIDITIS

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I wish to report a case of bilateral acute mastoiditis, in which hysteria was found to be the sole etiological factor. From the earliest time hysteria has been recognized a factor in the treatment of disease of practically every organ in the body. Nearly every case presents many so called "Hy" symptoms. Every Doctor is very familiar with these cases. Hysterical involvement of the mastoid, however, is quite rare. Search of the literature reveals only eight cases reported. Five of these presenting symptoms of the labyrinth and semicircular canals should really not be included in this series.

J. S. Fraser reported a case of "hysterical" mastoiditis in 1916. A woman of thirty-four complained of severe pain in, and discharge from, the right ear of five days duration. The patient stated that the pain was so severe as to prevent sleep. She also complained of tenderness and swelling in the right temporal region. She stated that she had had a discharge from the right ear eighteen months before, and since that time had had attacks of pain in the right side of the head, and had suffered from dizziness whenever she stood up after stooping. She often suffered from nausea, but did not vomit. Six years previously she had a severe attack of earache on the left side, and showed the marks of a mastoid operation behind the left ear, and of an incision along the anterior border of the left sterno-mastoid (presumably for the ligation of the internal jugular vein). Since this operation she had been completely deaf in the left ear.

Examination of the right ear showed a considerable amount of blood-stained discharge in the right external meatus and the hollow of the concha. There was no mastoid swelling on the right side, but there was apparently marked pain on pressure over the mastoid antrum and also at the tip of the process. Pain was also complained of when the right auricle was pulled on, and tenderness was present along the line of the internal jugular vein though no enlargements of glands were felt.

The case was apparently one of acute exacerbation of a chronic purulent otitis media, and it was thought that the peculiar blood-stained character of the discharge was probably due to hemorrhage from an aural polypus, though in the absence of appliances for otoscopy it was impossible to be sure. The scars over the left mastoid and internal jugular appeared to confirm this view of the case.

Just prior to operation another examination was made and the right tympanic membrane was found normal, as well as the left. There has been no reappearance of the copious blood-stained discharge from the right meatus. Functional examination of the ear had shown that bone conduction on the vertex was shortened. The tuning fork in the middle of the vertex was heard best in the right (recently diseased) ear, and on this side the air conduction was greater than the bone conduction. The watch was heard at 18 inches. The lower pitched tuning forks (C16 and C32) were not heard at all either by air or by bone conduction, but the remaining C forks, up to C-2048 were heard by both air and bone conduction. With the noise apparatus in the left ear the patient could hear the raised voice at one foot by the right ear. The upper-tone limit was 11,000 D.V.S.

After the patient had been taken to the operation theatre and the anesthesia com-

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menced, these findings were confirmed and it was also noted that on the posterior wall of the external meatus there was a small wound surrounded by a little dry blood-clot. The diagnosis now appeared to be tolerably clear as one of "hysterical mastoiditis." Though the possibility of mastoid disease due to the streptococcus mucosus could not absolutely be excluded.

The patient was accordingly put lightly under the anesthetic and dressings and bandages were applied though no operation was performed. Four days later the dressings were removed. No discharge from the right ear. The patient was informed that no operation had been carried out on her ear, and she replied that she had all along been sure of this.

H. G. Langworthy reports a case of "hysterical" mastoiditis with tenderness and pain without functional disturbance. A young girl of fourteen entered the hospital with the following history: The mother had always been "very nervous." A year previously the patient had a severe attack of pain and slight swelling over the right mastoid, which had persisted up to the present time. Pain worse by spells. Tonsils had been removed, after which the patient felt slightly better for a time, then the pain again returned with renewed severity.

For ten days there were headaches, with intermittent tinnitus. The patient complained of pain in and radiating from the right mastoid, nausea one day only, no vomiting. She had "dizziness about the head" on stooping.

Examination of the right ear showed the membrana tympani very slightly retracted and rather thin but otherwise normal. Outline of malleus and incudo-stapedial joint was easily seen. Canal walls normal. Mastoid process rather prominent. The entire, sharply defined area over the right mastoid was very tender and painful; the pain did not follow distribution of any particular nerves. No edema. The skin was found "peeling" and a little reddened from a weak solution of tr. iodine applied several days before.

Left ear: membrana tympani normal; the mastoid process was prominent like that on opposite side. No mastoid tenderness. Functional tests: whispered voice, Rinne Weber, Galton whistle and tuning fork normal in both ears. No neck tenderness. Teeth examined and found in excellent condition. A thorough examination of all organs was negative.

Two days later the skin over the right mastoid was normal in appearance, no edema. The right mastoid process was very tender, the slightest touch causing not only signs of distress but a violent attempt to jerk the hands away The patient still complained of radiating pain over the mastoid. The middle ear was normal. Quantitative and qualitative tests were normal. No dizziness. The patient cried for no apparent reason.

An examination by a nerve specialist showed a very slight nystagmus, the area over the right mastoid was hyperesthetic—there was very slight spasm of the right sterno-cleido-mastoid muscle. No stigmata of hysteria were present, although this does not eliminate the possibility of psychic pain. Suggestive treatment was advised.

The temperature after this was 100 F. for the first time, middle ear tests normal. The girl was given electrical as well as suggestive treatment every day. Potassium iodide fifteen grains three times a day and strengthening diet was prescribed. Treatment consisted essentially in psychotherapy.

A month later the pain and mastoid tenderness had entirely disappeared for several days. The patient said she was well again, and looked much brighter. The middle ear and hearing tests were normal. She was discharged from the hospital well.

The interesting features of this case are hyperesthesia of a considerable degree and unilateral mastoid pain. Contrary to most of the reported cases of this character, the functional tests were all normal, the hearing not having been affected at any time to the slightest extent. The slight spasmodic contracture of the sterno-mastoid muscle (tonic) was in perfect accord with the condition.

The mastoid trouble seemed to be analogous to the so-called "hysterical joint," namely, sensitiveness without swelling. The diagnosis from the predominance of subjective over objective symptoms, the presence of a very slight contracture, and history of nervousness, as well as antecedents, seemed clear.

Prognosis must surely be somewhat uncertain. A relapse under the influence of another exciting cause would not be surprising.

S. M. Smith reports a case of hysteria simulating

mastoiditis with suspected brain abscess formation. This was the case of a colored man, 26 years old, who seven months prior to admission had been hit by a baseball over the right mastoid process, the blow being followed by bleeding from the right ear and unconsciousness for 24 hours, after which he was totally deaf in the right ear, and so deaf in the left that one had to speak in a loud tone to make him hear conversation. The hearing, however, was restored in the left ear within a short time.

There was excruciating pain over the right mastoid process, continuing more or less severe during the entire seven months. There was also tinnitus and a throbbing pain. He had attacks of vertigo and had complete left hemianesthesia.

Examination showed right ear canal normal in all respects save for the severe pain over the mastoid process and temporal region, which was increased by slight pressure. Membrana tympani in the ossicles appeared normal. There was complete absence of both air and bone conduction in the right ear. The X-ray examination was negative for any mastoid involvement.

Neurological examination: While hysteria was discussed as a probability the fact that the ear symptoms were in one side, and the sensory and motor symptoms on the opposite side together with the blood findings led to a diagnosis of abscess of the right temporal bone. A simple mastoid operation on the right ear was done for exploratory purposes; no actual disease was discovered in any part of the cavity. The day after the operation the hemianesthesia and vertigo disappeared and hearing became normal in the right ear. Four months after the operation the improvement was still maintained, which shows that the typical neurasthenia was wholly deceiving. And although the patient might have recovered under non-surgical therapeutical treatment yet it seemed justifiable to perform an exploratory operation.

Case report: Miss D. E., student nurse of Grace Hospital, 19 years old, was admitted January 17, 1930, on account of pain in the right ear. Family history was essentially negative. She was an only child, was always a bright pupil in school, finished high school with honors, had always wanted to be a nurse and entered the Grace Hospital training school two years before. Her father and mother were both living.

The patient had been admitted to the hospital three times, first at Grace Hospital at the age of seventeen, February 8, 1929. At this time she gave a history of having caught her left arm in the service elevator at the hospital. A preliminary diagnosis of possible fracture of the left wrist and a chest injury were made. A report from the X-ray department stated that there was a suspicion of a dorsal subluxation of the distal end of the ulna. Soon after, an X-ray was taken of the chest and reported no fracture present. Later developments indicated that there was only a contusion of the left wrist and on February 12, 1929, she was discharged with that diagnosis and reported as recovered.

Second admission was made February 28, 1929. The chief complaint at this time was an infection following a Schick test. There was swelling and tenderness on the outer aspect of the left arm in the area in which the injection was made. The temperature was normal, urine examination negative, and after a short period of observation she was discharged March 6, 1929.

Third admission was made May 31, 1929. The chief complaint at this time was pain in the left chest and side. Two days previously she had been struck in the left lower portion of the chest, following which she had fainted and later developed dyspnea. The pain was described as sharp and stab-like and occurred at various intervals with no definite connection as to time. On this admission the family history was noted as negative. The physical examination proved to be essentially negative. An X-ray examination of the chest was reported as negative. Because of her persistent symptoms she was sent for cystoscopic and pyelographic examination. The cystoscopic examination was negative. The pyelograms were also negative though X-ray of the sacral spine showed a spina bifida occulta. The temperature was normal. On June 11, 1929, she was discharged as recovered with a questionable diagnosis of ptosis of the left kidney and probably diagnosis of neurasthenia.

PRESENT TROUBLE

While working at the branch of Grace Hospital the patient complained of sudden pain in the right ear. She said that the ear had discharged some blood and pus and that she had had a temperature before her admission. There was no history of head cold or throat infection. Examination revealed normal temperature and pulse, no evidence of discharge in the ear, no swelling of canal and no involvement of the ear drum. There was, however, marked tenderness over the whole mastoid, causing excruciating pain on palpation. There was no edema over the mastoid or any cervical adenitis on that side. Hearing tests were all normal. Patient was kept in bed with heat to the ear and small doses of aspirin for two days and she was discharged in four days and sent back on duty.

Eleven days later she was again admitted to the hospital on account of pain in the same right ear. She said that it had been tender around the ear and that it had discharged for one week and that she had had excruciating pain over the right mastoid area. Examination showed normal temperature and pulse, no signs of head cold. The ear canal showed a small blood clot; drum membrane beyond, practically normal. Blood clot was removed and there was no bleeding. Examination of nose showed small ulcer on the septum anterior portion which had bled recently. There was extreme tenderness over the mastoid and ear when it was touched. X-ray was ordered for mastoid and all teeth and report was negative except for a few small cavities on the left side.

Dr. Emil Amberg was called to see her in consultation and because of the very definite mastoid tenderness which had persisted for about a month, he advised an exploratory operation. No pathology was found in the mastoid, cells appeared glistening, no bleeding and culture was negative after forty-eight hours. Pain and mastoid tenderness was relieved immediately following operation and she was discharged from the Hospital February 8, 1930.

Ten days later she was again admitted to the hospital on account of pain and tenderness over the "left" mastoid region. She gave a history very similar to the trouble in the other ear of having had fever and bloody discharge. On examination no blood could be seen in the ear, drum membrane was normal. The right mastoid wound was entirely healed at the time; there was no pain or tenderness over the right side. Again an X-ray was taken of both mastoids and the report was negative for any involvement. Realizing that we had not cured the "hysterical mastoiditis," we transferred the patient to the service of Dr. Curtis Prout of the Neurological department of Grace hospital and I am indebted to him for the further report of the case.

Following the patient's discharge as noted above, she had returned to the branch. About one week later she began to complain of pain behind her left ear. The pain radiated over her head and down her neck to her back. On physical examination there was tenderness on palpation over the left mastoid. She complained of pain in the neck on moving her head, opening her eyes or on any commanded movement.

She responded in a vacant way to questions unless forced, when she would give a normal answer. The blood count revealed 9,000 leukocytes with polys. 70 per cent. Her temperature was normal and an X-ray of the left mastoid was reported as normal. Her mother was questioned rather closely and admitted that the patient had always been fond of sympathy and had received it at home. She had felt that the nurses' training course was rather difficult and had found a little trouble in adjusting herself at the start. On the evening of February 20, she was lying in bed in apparently excruciating pain, mumbling to herself and drooling. Up to this time she had been receiving a considerable amount of sympathy from her co-students. This was suddenly stopped and she was advised that her symptoms would not indicate another mastoidectomy. In fact, her symptoms simulated no disease very accurately. After rather a lengthy talk she was left by herself. That night she suddenly seemed to come to herself, as noted by her nurse, and her symptoms miraculously left her. She admitted that she had been in search of sympathy, that she had felt tired and had adopted this method of gaining her end. She was sent home for three weeks with no assurance that she could return to the training school. She was seen several times at the office and no more etiological factors were elicited. She pleaded for permission to return to her training and soon after was permitted to do so. Since then she has taken an active interest and has recently received commendation for her markedly improved work.

She was discharged from her sixth admission on February 21, 1930, with a diagnosis of hysterical mastoiditis.

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DISCUSSIONS

Dr. Curtis T. Prout (Detroit): As Dr. McClelland has stated, hysteria has been recognized as a factor in the treatment of disease in practically every organ in the body. It is sometimes very difficult, however, to differentiate hysteria from an organic condition, and many patients have gone on for long periods of treatment for organic conditions, which in reality did not exist as such. The case just reported holds many points of interest for all of us, but inasmuch as hysteria is the final diagnosis, let us consider that phase particularly.

Wechsler states that what characterizes the hysteric personality is the infantile reaction to life and the inability of the individual to adjust at the adult level of reality. The individual is hypersensitive, irritable, self-centered, preoccupied, impulsive, moody, and generally deficient in emotional control. Henry describes the hysterical individual as highly sensitive and suggestible. They have had instinctive and emotional experiences which were so distressing that they were unable to think about them. These they repress, yet there is a fascination present which demands expression and recognition of the experiences. The expression cannot take place without modification, and this usually occurs in these people in the form of physical symptoms. Bleuler designates the hysterical complex as the more massive neurotic symptoms and those with conspicuous psychic connections, that is, with both psychic and physical manifestations. The physical symptoms are generally difficulties of definitely psychic origin, as anesthesia, hyperesthesia, pain, or paralysis of functional units of muscles. The psychic manifestations are usually in the form of exaggerated outbursts of mood in various directions with a tendency to the theatrical. He also notes the marked suggestibility, together with variable degrees of disturbance of memory and attention. Because of the close relationship between the psychic and the physical manifestations in these people, not only the true organic disease simulated must be differentiated, but other and more truly psychogenic conditions as well. A brief summary of the means of therapy includes psychoanalysis or a psychologic approach, suggestion and hypnosis, sometimes supported by medical and surgical procedures. In the deep seated cases, psychoanalysis is undoubtedly the best means of attack, but the lighter and more usual forms of hysterical reaction respond to the other forms of therapy. The great difficulty with the forms of therapy other than psychoanalysis lies in the fact that there is a tendency for the complaint to shift from one area to another as the local manifestations are cleared up. The value in this treatment, when properly performed, lies in its clearing of the initial cause, and a complete readjustment on a new level.

In the case just reported one of the interesting features was the personality of the patient. At first contact one would be impressed by the calm, placid and apparently well-balanced and adjusted attitude of this girl. On further study, however, one finds that beneath this outward calm there is a peculiar unrest and discontent. There is lack of assurance and a corresponding tendency to physical awkwardness; there is marked tendency toward reticence and introspection, and when observed for some time the original placidity takes on a semblance of day dreaming. As Dr. McClelland has stated, no further etiological factors than those he has mentioned were elicited. There had been a maladjustment toward the training school from the time of first enrollment. This, together with the personality developed at home under the influence of a stern paternal parent and an easy-going maternal parent, brought her to the final effort of expression. The mechanism might be explained in this way—the stern parent was still represented in the form of the rigid training rules of the school, but the maternal sympathy was lacking. This she endeavored to obtain on the basis of the story already told by Dr. McClelland. Thus, while this particular case failed to respond to the method of treatment often resorted to in hysterical cases, that is, radical organic treatment of the complaint, she did respond to a combination of that therapy, plus suggestion.

I have enjoyed hearing Dr. McClelland's presentation very much, and I trust it will again bring home to us a well-known but often forgotten fact—that the functional and organic complaints are so closely allied that at times it is very difficult to differentiate between them. It is therefore well for those trained in the diagnosis of functional or organic diseases not to be too hesitant in obtaining the opinions of each other.

Dr. Emil Amberg (Detroit): The advice concerning this very interesting patient was not given lightheartedly. There was no question about the patient suffering from a disease, for hysteria is also a disease. This girl insisted that she had had a

discharge from the ear. The responsibility for that statement was hers. I had remembered a case of Politzer in which the removal of a piece of the cortex was curative. Urbantschitsch states that neuralgia of the mastoid process is rare; that in the absence of redness, edema and fever, pain speaks for neuralgia, especially if inflammation of the tympanic cavity was not present, and that temporary disappearance of pain and the beneficial influence of outside application of narcotics or chloroform, and especially of the galvanic current, point to neuralgia. He, and others, have opened the mastoid process in spite of negative findings, and the pain disappeared permanently. Weber-Liel observed severe tenderness of the process in a case of fissure of the pyramid with apparently healthy mastoid cells. A microscopical investigation might be illuminating. Guye reported a case in which pain had disappeared after an operation only for several weeks and in which removal of the apparently healthy tip cured the patient definitely. This fact should make us think. Guye reported another case in which a supposed intracranial focus was not found, but in which the removal of a bone disc, 3 centimeters in diameter, above the ear, cured the patient. There may be some neuro-osseous pathology with which we may not yet be acquainted. Ostmann states that hysteria must be considered in otalgia without changes in the ear. Apparently insignificant changes in the ear may cause tympanic neuralgia. Ostmann mentions malaria and syphilis as a cause. The latter may lead to periosteal thickening of the walls of the tympanic cavity and of the fine osseous channels of the tympanic plexus and so the neuralgia. Carious teeth and various changes of the nasopharynx and larynx may cause this symptom. One must also consider neuralgia of the trigeminus. Boenninghaus, speaking of mastoidalgia nervosa, states that the patients are almost all females. The patient demands an operation with great persistency. Other hysterical symptoms may be found. Sometimes suggestive treatment may be successful. Schwartz, Boenninghaus and others have noticed marked beneficial results from an operation. We can all appreciate the dilemma which confronted the essayist in this case.

Dr. Wilfred Haughey (Battle Creek): Last fall we had a school teacher, a nun, a very efficient woman, who had been complaining of a discharge from the ear and pain back of the ear. We had never been able to find a discharge or anything to indicate that there had ever been a discharge, except her story. She was certainly suffering pain. The drum was not reddened. We tried Politzerization, which did not relieve her. X-ray showed nothing. She was suffering and was in the hospital at the time I left the city, and when I came home there was word that a mastoid operation was to be done next morning. I went up and did that mastoid and found it absolutely negative—found absolutely nothing. This woman was relieved of her pain, and had no more trouble, and had gone back to teaching school. She went along about a month or six weeks and then complained of the other ear, and went through the same procedure. In the first X-ray the findings were negative, in the second they thought they could see some change. After I operated I studied the X-ray and could see no difference. I operated the second ear. She was relieved and has had no trouble since. It may have been hysterical mastoiditis, it may have been something we do not know about, but she was relieved. It was pretty hard to bring myself to operate an apparently healthy mastoid on both sides.

Dr. Carl McClelland (closing): In a large hospital we sometimes take these cases without properly working them up, because they come with a certain symptom or group of symptoms to be relieved. In this girl's history the previous trouble was not found until we dug it out. I felt possibly I was negligent in not getting a thorough history before operation. I am most grateful to the men who have gone over this case with me and offered this interesting discussion.

THE HARD-OF-HEARING CHILD AND THE DEAF CHILD*

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If I am asked to start a discussion about the subject matter, it must be for the reason that in Detroit the efforts toward amelioration of the conditions of the ear-handicapped child have received a great impetus through the internationally known work of Miss Gertrude van Adestine, the principal of the Detroit Day School for the Deaf. The sympathetic understanding and assistance of an enlightened Board of Education and Board of Health have led to the establishment of a clinic in the widely known School for the Deaf. These factors have contributed to the progress in education of the handicapped child. I consider the fact that I am invited to say a few words tonight a compliment to the institutions mentioned.

We are well aware, in Detroit, that the goal has not been reached and we are constantly aiming at methods which might develop the work in the interest of the handicapped children. The endeavors in this direction are still in their infancy.

Dr. Don Gudakunst, Director of the School Health Service of Detroit, in the publication City Health, under the heading "An Aurist for the Conservation of Hearing" (November, 1930, Vol. XIV, No. 8, page 11), says:

"All children who have markedly defective hear-

*Read before the Bay County Medical Society, January 14, 1931.

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ing are referred to him [the aurist] at the Day School for the Deaf for a special examination. This difference is deemed advisable because of the complexity of the examination and the relatively few available places for securing such a service. Not only is the hearing of the child examined in great detail, using all the possible modern electrical and mechanical aids, but also a psychological examination is given wherever indicated. The scholastic record of the individual is reviewed by the principal of the special school. Assignments are made using these three factors as a basis of passing judgment—actual auditory defect, mentality, and ability of the individual to conduct himself among his peers.

"Eight hundred and thirty-one examinations were made at this clinic during the year. Of 367 children examined for classification, 66 were recommended for admittance to the Day School for the Deaf; 81 children were recommended to be admitted to one or another of the 25 lip-reading classes; 4 were referred to special speech classes; 2 for institutional care; 2 for mental defective classes; and 212 were referred back to their regular grades. While the 4A audiometer is used extensively throughout the city, it has never been our policy to use this instrument as a means of classification of children with auditory defects. It has been definitely determined that this instrument, valuable as it is, is not suitable for this fine type of work. It has been proved to our own satisfaction that there are too many other factors in testing hearing to allow its use for this purpose."

It is necessary to distinguish between the deaf child and the hard-of-hearing child. I think that it is advisable to call a child deaf when he cannot hear anything for practical purposes, although he may have some tone islands in the sense of Bezold. The hard-of-hearing child, however, has some hearing which can be utilized.

John Dutton Wright, M.A. (The Laryngoscope, St. Louis, November, 1914), speaks of the "six-foot rule," namely, when a child cannot hear whispered speech with at least one ear at 6 feet, he cannot with advantage remain in a class of an ordinary elementary school. Such a rule is, as Wright states, of course not absolute.

Measures which prevent hardness of hearing and deafness during early life must be based on the causes of these afflictions. We must consider:

1. Heredity, including consanguineous marriages. 2. Congenital diseases. 3. Congenital and infantile hyperplasia of the mucous membrane of the middle ear (Wittmaack). 4. Infectious diseases, e.g., scarlet fever, measles, whooping cough, influenza, syphilis, tuberculosis, etc. 5. Diseases of the brain (meningitis, etc.). 6. Catarrhal conditions caused by nasopharyngeal pathology. 7. Suppurations. 8. Injuries to the head, including injuries at birth.

It is, of course, impossible to consider all these causes and to touch upon remedial measures. Besides, it is not necessary to reiterate measures which can be found in all textbooks. I will speak only of a few items. Inasmuch as the speaker is on duty in the School for the Deaf he may state that the removal of adenoids, and, if necessary for general reasons, of the tonsils, has proven effectual in some instances. These children are requested to return to the clinic of the School for the Deaf after removal of the adenoids and perhaps of the tonsils. In connection with this circumstance I should like to emphasize two points. First, an adenectomy done some time previously does not guarantee the absence of adenoids at the time of the examination. You know that adenoids return sometimes. The surgeon must not be blamed always for their recurrence. Of course, it is possible that the adenoids have not been removed completely, especially not in the Rosenmueller fossa. Frequently, however, it is a physical impossibility to remove all the tissue, as has been claimed, because the bone is not even. Very small nests remain which furnish the basis for recurrence. Therefore a re-examination for adenoids is recommended frequently, and another operation if adenoids are present. In this connection, I mention, in passing, the persisting infantile type of the nasopharynx, which is of importance in reference to ear troubles.

Bernfeld (Ztschr. f. Hals, Nasen u. Ohrenh. 19' 516, February 28, 1928; reviewed in the Archives of Otolaryngology p. 104, 1928) describes the infantile nasopharynx and its constitutional inferiority and calls attention to comparatively greater frequency, in this condition, of nasopharyngitis, hypertrophied tonsils, adenoids, recurrence of adenoids, catarrhal otitis with and without adenoids, and mesotympanic nonspecific chronic ear suppuration.

It is well known that the indications for the removal of tonsils are widely discussed and that indiscriminate tonsillectomies are condemned, yet the vicious circle formed by nose, throat and ear may oblige us to interfere under certain circumstances. In connection herewith, I quote Gruber (Tenotomy of the Tensor Tympani, by Prof. Joseph Gruber, M.D., translated by Charles S. Turnbull, M.D., Philadelphia, 1873, p. 23): "He observes that the tensor tympani muscle arises from the cartilaginous portion of the Eustachian tube, but is connected with the tensor veli palati muscle by a ten-

dinous prolongation in such a way that the intimate connection between the two is completed; and L. Meyer even asserts that he considers the two muscles as a single digastric muscle. It is well known how often this muscle suffers in the frequent diseases of the nasopharyngeal structures. If we notice the soft palate (and usually hypertrophied tonsils) into which this muscle enters, we will see how the same is displaced and drawn out of its position, and it will be clear that this muscle in such cases is unable to properly perform its function—viz., the opening of the Eustachian tube; and this abnormality, sooner or later, will be sure to affect its companion muscle—the tensor tympani—and so cause the spasmodic contraction of the latter, which will exert a further influence upon the labyrinth."

The removal of adenoids (and of tonsils) should be followed in some instances by careful inflation of the middle ear, if such an inflation is followed by improvement. The promiscuous inflation of the middle ear should be decried. Why? You are familiar with the pocket-handkerchief deafness of Hays. Hays claims that the injudicious use of the handkerchief is injurious. We can understand this readily. A nose should be blown without closing the nostrils. The handkerchief should touch the osseous part of the nose only, otherwise a flabby membrane might result. The motility of the drum membrane should be established in every instance by use of the Siegle otoscope. Besides, constant and continual hearing tests should control every inflation. That does not mean only immediately after the inflation, when the middle ear may be filled with air abnormally and the hearing may be made worse temporarily, but also before the subsequent treatment. In case that the hearing does not show any improvement, the treatment should be discontinued as useless.

We have heard lately again much about re-education of the sense of hearing by hearing exercises of some sort or another. Berold has established the fact that tone islands exist in 15 per cent of the deaf children. Urbantschitsch has advanced the idea that exercises can improve the hearing. How can a destroyed endorgan be made more responsive? It is a physical impossibility, but it is possible to utilize what is heard, more extensively, by practice. If the brain is placed in responsive readiness to certain sounds, they are more easily apprehended. A skillful bell boy does not enunciate the name of a guest whom he pages, yet, the particular guest called may understand the bell boy because the pathways in his brain are attuned to his name by constant repetition. In this manner the benefit of hearing exercises is to be explained.

It must be stated, however, that in view of the results which Urbantschitsch quotes (Textbook, 1910, p. 153 and following) it is advisable to try the exercises recommended by him. Urbantschitsch states specifically (p. 154) that the correct interpretation and differentiation of the hearing impulses, and not a fast increasing development of the hearing sense, must be considered. This coincides with Politzer's idea.

Thomas J. Harris (Auditory Re-Education, the Laryngoscope, St. Louis, September, 1916) states that the physiology of the treatment rests on a sound basis and "It is well known how the eye can be trained for the microscope [should not the interpretation be trained?—E. A.], and how the sense of taste is developed in tea-tasters, etc., also how the blind acquire peculiar skill in the sense of touch and hearing."

Max Verworn (The Development of the Human Mind, 1915, Gustave Fischer Jena) says: "The condition of the connected ganglion cells is the deciding factor for the 'apperception' in the sense of Kant. Functional engagement, fatigue, toxins, pathologic processes, exercise and lack of exercise bring about changes." And further, "The working capital with which humanity begins its mental development lies in the life of associations."

The hard of hearing or deafened child must be examined also for cerumen in the ear canal and for foreign bodies. Acute inflammations of the ear must be noticed. A chronic adhesive process or a chronic suppuration of the ear engage our attention. Remedial efforts must be made in this condition. Chronic suppuration conditions are a chapter in itself. Much can be done to avoid further complications, yet great efforts are required to persuade the parents of the necessity of surgical interference, if palliative treatment carried on for a reasonable time does not yield results. We must not forget, however, that infectious diseases like scarlet fever do not confine their ne-

farious influence to the middle ear, including the mastoid process. Let me quote Ruemble (Ztschr. f. Hals, Nasen u. Ohrenh, 19:195, August 27, 1927, reviewed in the Archives of Otolaryngology, p. 186, 1927), when he speaks of "Histology of Deafmutism After Scarlet Fever Meningitis." He describes the histologic changes in two cases of deafmutism which occurred after scarlet fever. The osseous obliteration of the labyrinth corresponded with the pictures observed in deafmutism after cerebrospinal meningitis, meningitis after measles, meningotyphoid, etc. A woman died, aged 71 years, who had become totally deaf after scarlet fever when she was 3 years old, and a man who died, aged 58 years, had become totally deaf after scarlet fever when he was 9 years old.

After pronounced hardness of hearing or deafness has been diagnosed, the instruction in a school for the deaf or elsewhere should not be postponed by holding out false hopes to the parents of the children. I can well understand and appreciate the fact that a physician feels sorry for the parents and tells them, for that reason, that the hearing might or will return, expressing more a wish than a prognosis based on facts. I am frequently in the same predicament. In these cases I tell the parents that there are many children and adults in the same condition; that they should be thankful that their child is living, because so many children die for instance in consequence of meningitis; that nowadays so much can be done for their children that the handicap will not be noticed as much as they think; that the hard of hearing can be educated just as well as others; that they even can go to universities and that they can enjoy life and be useful members of society. It is not even necessary, in many instances, to refer to that wonderful woman, Helen Keller. You may well ask me how many children are hard of hearing or deaf. This question cannot be answered correctly because there does not exist, to my knowledge, definite data based on examination of all school children. Those who have given the question some thought estimate that there are three million children in the United States who are either hard of hearing or deaf. I may add that the number of adults is estimated to be ten million or more. Definite data are available in some instances.

Frank H. Rodin (Survey of the Hearing of School Children of San Francisco, Archives of Otolaryngology, April, 1930), who reports a systematic survey of the hearing of all the school children of a large city, from 9 to 16 years of age, states that he found 1.2 per cent of the children in need of training in lip reading. The number of pupils examined was 36,191. Forty-three children attending the school for the deaf were examined. Twenty-four children had congenital and nineteen acquired deafness. Rodin recommends that school children should be examined every 2 or 3 years.

It is assumed that one person out of ten has defective ears. McAuliffe states that 10-40 per cent of school children have defective hearing. In Brooklyn of 6,000 to 7,000 school children, 1 per cent needed instruction in lip reading (James J. Reynolds).

The investigation sponsored by the National Research Council inspired by the late Dr. Charles W. Richardson deserves special notice. The work of the American Association to Promote Teaching of Speech to the Deaf and the efforts of the American Federation of Organizations for the Hard of Hearing are well known. It would lead too far to name all earnest and enthusiastic workers, but I must mention Wendell C. Phillips, a former president of the American Medical Association, whose magnificent example has borne rich fruit. There are excellent schools for the deaf in this country, the first of which was established in Hartford, Conn., in 1815.

The attitude of the physician toward the hard of hearing and the deaf child is clear. His duties do not stop after he has diagnosed the condition. The mental and physical aspect must engage his attention. It has even been claimed that deaf children are more liable to acquire tuberculosis on account of their habits. The deaf child needs the intensified attention of the physician.

Frederick T. Hill (Volta Review, October, 1929, Vol. XXXI, No. 101) states rightly: "In order to do justice to the deafened, the otologist must really adopt the attitude of the old-fashioned family physician rather than that of the self-sufficient specialist."

We must not forget that an earhandicapped child has a psychology of its own which tends to make it morose and dissatisfied. This is not necessary. The earhandicapped

child can live a life like other children and participate in the joys of life.

CONCLUSIONS

1. Hearing tests should be standardized.
2. The ears of all children should be examined when they enter school, and if possible long before they enter school.
3. These examinations should be repeated at intervals.
4. The examination should not be confined to the ears.
5. The mental efficiency of the child should be considered especially.
6. Home surroundings of hard of hearing and deaf children should be investigated.
7. Remedial measures should be recommended when indicated.
8. If possible, a hard of hearing child should remain with children with normal hearing and be taught lip reading.
9. Parents and guardians should be instructed concerning their attitude to an ear-handicapped child.
10. Parents, teachers and physicians should cooperate in the interest of the physical and mental welfare of the child and endeavor to make the child content and happy.

PROGRESS IN GENERAL MEDICINE*

WILLIAM NORTHRUP, M.D.†
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I cannot look back over the years that have elapsed since my graduation from medical school without being very happy and proud to have lived in such a productive period. Through the eighteenth century the age of theorists and system makers passed, and was replaced by an organized advancement of science. Deductive reasoning was replaced by inductive reasoning. Physics, chemistry and biology came to be studied as objective laboratory sciences, dissociated from the usual human prepossessions.

Progress in medicine was relatively slow until 1850, although numerous important contributions were made many years earlier. I would like to mention the name of one man, Edward Jenner, whose work antedated this milestone in medical history. Jenner was the son of a Gloucestershire clergyman, who in 1770 became a friend and pupil of John Hunter. He may be called the pioneer of preventative medicine. It was common knowledge in Gloucestershire that dairy maids who had contracted cowpox through milking did not take smallpox. Jenner conceived the idea of applying this knowledge in the prevention of disease. He was encouraged by Hunter to make the experiment, and, as you all know, he was successful. He began to collect his observations in 1778, and on May 14, 1796, performed his first vaccination upon a country boy.

After 1850 each year brought forth many important developments. In 1859 Darwin published his "Origin of Species." In 1860 this was discussed at the University of Oxford and derided by the Bishop of Oxford, but was defended by the great Huxley. In 1858 Virchow published his "Cellular Pathology." Louis Pasteur and Robert Koch founded the science of bacteriology in the years between 1860 and 1875. In 1867 Lister introduced antiseptic surgery. Of the surgeons of Lister's time, the name of Billroth is perhaps best known. He was the pioneer of surgery of the alimentary tract. In 1872 he made the first resection of the esophagus and in 1881 the first resection of the pylorus for cancer, which was successful. Neisser discovered the gonococcus in 1879. In 1880 Eberth isolated the typhoid bacillus. The parasite of malarial fever was discovered by Laveran in 1881. Koch discovered the tubercle bacillus in 1882. In 1883 Edwin Klebs discovered the diphtheria bacillus. Koch discovered the cholera bacillus in 1884. Bacillus coli was introduced by Escherich in 1886. In this year Fitz, a Boston physician, made an important contribution to surgery by describing accurately the pathology of appendicitis. In 1887 Bruce discovered the bacillus of Malta fever. Weichselbaum discovered the meningococcus in the same year. The Pasteur Institute was founded in 1888. Behring treated diph-

*Chairman's address before the section on General Medicine, Michigan State Medical Society, Benton Harbor, September 16, 1930.

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theria with antitoxin in 1890, and in 1893 Roentgen discovered the X-rays.

All these advances were made in a brief period of about forty years. Many of the discoveries found practical application rather slowly, for methods of communication were much slower at this time and medical teaching had not reached the perfection it has today. Everyone was eager to learn, but there were so many new things that it was difficult to grasp them all. This was the state of affairs in 1894, when I graduated. There were no X-rays in practical use at this time. The average practitioner would never think of taking a blood test of any kind. Blood pressure recording was just being developed. I do not remember having seen the blood pressure taken during my medical training. Stephen Hales had investigated blood pressure in animals by direct measurement as early as 1740. Marey, Basch and others, in 1863 attempted to use the plethysmographic method for determination of the blood pressure, and variations of this method were used for about twenty years. Riva-Rocci, of Pavis, was the first to eliminate the fundamental error in the methods previously used. He applied a wide rubber tubing around the arm. This was in 1896. In 1901 this instrument was modified by Von Recklinhausen, who observed that the narrow width of the armlet recorded too high pressures. Harvey Cushing introduced the Riva-Rocci instrument into this country. The ausculatory method described by Korotkoff in 1905 made the estimation of the diastolic pressure practical, and from that time on the value of the diastolic pressure as a prognostic sign has increased in importance. Much valuable data has been accumulated in blood pressure studies, but we still have much to learn. The separation of primary essential hypertension from primary bilateral kidney disease was achieved by a group of London clinicians. In 1874 Mohamed described what he called the pre-albuminuric stage of Bright's disease. Between 1880 and 1887 Samuel V. Basch, of Vienna, working with his primitive instruments, measured the blood pressure of almost everyone who came under his care. He suspected that failure of the circulation occurred in a group of conditions with different mechanisms, but with similar symptomatology. Sir Clifford Albutt, Huchard and Pal are the clinicians who led the profession in the further study of hypertension. Swada in 1904 measured the blood pressure in a number of patients with arteriosclerosis and found that it was normal. Recently, Volhard and Fahr have partially clarified the etiological relationship between the vascular and kidney pathology. Measurement of the blood pressure has become a routine procedure in medical practice during the past twenty years. Today the blood pressure is the only important quantitative aspect of hemodynamics besides the heart rate that can be estimated simply and accurately.

Today we are specially interested in the etiology of hypertension. Sir George Johnson, as early as 1868, formulated the theory that arterial hypertension was due to some powerful constrictor substance in the blood. Johnson expressed the belief that the cause of arterial hypertension was the continued constriction of the arterioles, and observed that "the minute arteries in any part of the body may be excited to contract by their contents becoming abnormal, and therefore more or less noxious to the tissues." Johnson saw in the observation of Gowers a confirmation of his theory that contraction of the arterioles is the cause of increased arterial tension. In five successive cases of Bright's disease in different stages and with different degrees of tension, Gowers observed a direct relation between the constriction of the arterioles in the retina and the degree of arterial tension at the wrists. Gowers' observation was published in 1876. In recent years, blood chemistry has been carefully studied in an attempt to find a possible substance in the blood of the hypertension cases that causes the continued elevation. Recently, Major, of Kansas City, has attempted to study the guanidin content of the blood. He found that in certain hypertensives the blood showed an increased amount of some substance giving the same color response as guanidin and having certain chemical properties like those exhibited by the guanidin bases. I merely cite these illustrations to show the intense amount of interest there is in the subject and the great amount of work that remains to be accomplished. The study of the blood pressure has given us much to think about, but there are many other developments equally as interesting that have come into practical use during my career. Very able work on the

heart has accompanied the studies in the peripheral vascular system. In 1893, Wm. His discovered a narrow band of muscle, now called the auriculoventricular bundle of His. This followed the demonstration by Gaskill, a distinguished English physiologist, of a smilar band of tissue in the frog heart, called Gaskill's bridge. In 1907, Keith and Flack discovered a tissue rest of fine, pale, finely striated fibers in the heart wall, supplied with arterioles, and connected with the Purkinje fibers and nerve terminals, the so-called Keith and Flack, or sino-auricular node, now dubbed the pace-maker of the heart. In 1908, S. Tawara traced out the muscular ramifications from the His bundle and discovered another muscular node in close relation to it, known as the auriculoventricular node. With the development by Einthoven in 1903 of the spring galvanometer, new advances were made in the study of disturbances of cardiac function. James Mackenzie, a distinguished practitioner, was the pioneer in graphic study of heart disease. Mackenzie demonstrated the wonderful efficiency of digitalis in auricular fibrillation. He was the first to investigate and differentiate the arhythmias. James Lewis also cannot be forgotten for his work on cardiac function and electro-cardiography.

With the newer knowledge of heart disease, we are now able to make a more scientific and practical classification of heart disease. We now divide all heart disease into three great groups, congenital, infectious, and degenerative. Congenital heart disease usually produces symptomatology in childhood or early adult life. The infectious diseases also occur early in life. The degenerative type occurs as a rule in middle and old age, the result of failure of blood supply from arteriosclerosis, the great enemy of longevity.

In closing, I would like to review briefly a few more things of interest that have happened during the lifetime of many of us. In 1896, Widal and Sicard introduced the agglutination test for typhoid fever. In 1897, Shiga discovered the dysentery bacillus. Loeffler and Frosch investigated filterable viruses in 1898. In this same year the Curies discovered radium. The following year, Reed and Carroll established transmission of yellow fever by mosquitoes. In 1901, Takamine isolated adrenalin. Two years later, Bruce showed that sleeping sickness is transmitted by the tsetse fly. Schaudinn discovered the spirochete of syphilis in 1905. This remarkable piece of work was followed two years later by the introduction of sero-diagnosis of syphilis: the Wassermann reaction. In 1909, only two years later, Ehrlich introduced salvarsan. Von Pirquet perfected his cutaneous reaction for tuberculosis in 1907. The Schick test came in 1913. In the last ten years at least three more great contributions have been made. Banting and Best isolated insulin in 1921; Graham and Cole perfected the examination of the gall bladder by X-ray in 1923, and in 1926 Minot and Murphy introduced liver diet in pernicious anemia.

There are, however, many diseases that still baffle us. Tuberculosis and cancer remain unconquered. Nothing new has been found to control the pneumococcus in pneumonia, nor has anything yet been found that influences many of the different types of streptococci. Laboratories everywhere are trying to find some inhibitive power to these unconquered diseases.

It is hard to imagine what will be accomplished during the lifetime of many of our younger men. I hope that the next thirty years may be as productive as those that have elapsed since my own introduction to medicine.

THE BLIND SPOT AND ITS PATHOLOGICAL SIGNIFICANCE

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In 1668 Mariotte announced the discovery of a blind spot in the field of vision. He recognized that this blind spot was due to the entrance of the optic nerve into the eyeball. Little further study was directed to this finding until the writing of Von Graefe in 1856 concerning amblyopic conditions of unknown origin. In 1869 Leber published a case of toxic amblyopia with a central scotoma and an enlarged blind spot. Cantonnet reported in 1903 his observations on the blind spot in myopia and the prognostic significance of enlargement. Maitland Ramsey and Sutherland described in 1906 five cases of blind spot enlargement in sympathetic irritation. In 1909, Van der Hoeve described a case of optic nerve involvement from posterior ethmoiditis diagnosed by an enlargement of the blind spot. Since then many cases have been reported to substantiate his claim.

It is hoped that some standard method for blind spot measurement will be adopted so that comparative observations may be taken. The examination of the blind spot on the perimeter is a waste of time and energy. The busy ophthalmologist seldom does perimetric work. An instrument known as the tangent screen facilitates this examination and makes it a matter of minutes. The information acquired will more than compensate for the time consumed.

The tangent screen described by Duane, in 1914, is a modification of the original screen of Bjerrum, described by the latter in 1889. A wooden frame, forty inches square, has a covering of black felt over stiff unbleached muslin. The black felt is towards the patient and has but one mark, the point of fixation. I have found that patients fix better by using a black headed pin 3 mm. in diameter on a gauze square 1 inch wide. A white headed pin 3 mm. in diameter may be used. The muslin on the back has the normal blind spots outlined and the radii of curvature for the tangent of the correct angle are figured and the circles drawn.

The patient is seated at a distance of one meter, with one eye occluded. The test must be made with small test objects, the advantage being that small field defects are relatively increased in size when studied at this distance with small objects. It is of advantage to first rough out the blind spot with a 3 mm. object and then accurately delimit its margins with a 1 mm. object. A relative area one degree in extent surrounds the normal blind spot for white. A greater degree of accuracy is obtained by moving from the blind area to the seeing area.

LOCATION OF THE NORMAL BLIND SPOT

At one meter distance the average blind spot measures 89 mm. horizontally and 122 mm. vertically. Temporal to the fixation point the inner edge is 232 mm. and the outer 321 mm. along the horizontal line. The upper margin is 37 mm. above the horizontal line. It is a fairly uniform oval with its greatest axis vertical.

ANATOMY OF THE BLIND SPOT AND SURROUNDING RETINA

In 1852, Donders proved that the projected blind spot corresponded to the entrance of the optic nerve into the eyeball. He used a small plane mirror to throw a narrow beam of light into his own eye. When this beam fell upon the optic disc no actual light was perceived. As soon as the beam passed beyond the optic disc light was perceived. Donders calculated, by the scotomatous area mapped out, the size of the optic disc and this has been substantiated by anatomical measurements made by Salzmann. Salzmann estimates the optic disc to vary in size from three to three and one-half millimeters.

Fuchs localized the peripapillary fibers of the retina as lying directly underneath the pia—thus any interference with the peripheral bundles would result in an enlarged blind spot.

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Samuelsohn examined an eye, in 1882, which had normal peripheral fields but a definite toxic amblyopia with a large central scotoma including the blind spot. His serial sections stained by the gold choroid method demonstrated the course of the papillo-macular bundle. This bundle occupies a v-shaped temporal sector occupying about one-third of the periphery of the nerve, coming to a point in the center. Passing backward it assumes a cylindrical form more central in location. On reaching the canalicular portion the bundle flattens, becoming crescentic, and lies in apposition with the central vein.

ANATOMICAL RELATIONS OF OPTIC NERVE

Before considering the pathological variations of the normal blind spot it is necessary to review the anatomy of the optic nerve and the relationship that exists between the nerve and the surrounding structures. The optic nerve is divided into the orbital and canalicular portions. The orbital portion is also divided into a vascular and non-vascular portion. The vascular portion lies free in the orbit in contact with the orbital fat. The avascular portion is in contact with the orbital fat but also has the ophthalmic artery and vein. The orbital portion of the nerve is not vulnerable to attack except by pus in the orbit.

The canalicular portion is eight to ten millimeters long and most susceptible. The nerve passes through a narrow bony canal three to five millimeters in diameter. The optic canals, containing the canalicular portion of the nerve, are usually in intimate relationship with the sphenoid and posterior ethmoid cells. The orbital periosteum is a thin vascular sheet firmly adherent to the bone. Within the optic canal the orbital periosteum blends with the dura covering of the nerve. Diploic veins links the periosteum of the orbit and the periosteum of the adjacent sinuses.

The nerve and its sheaths are supplied by the central artery and vein. The artery enters the nerve 15 millimeters posterior to the eyeball and sends a branch backward through the avascular portion. The canalicular portion derives its blood supply from the ophthalmic branches of the central artery. From the posterior orbital optic nerve and sheath small veins converge toward the center of the nerve to form the posterior central optic nerve vein. The papillo-macular bundle surrounds the temporal side of this vein in a crescentic manner. This vein is most important in that it leaves the nerve at the posterior end of the optic canal and directly enters the cavernous sinus. These anatomical facts explain the association of the accessory sinuses to the optic nerve. The edema or infection passes through the diploic veins from the sinus to the orbital periosteum and then by direct extension to the canalicular portion of the optic nerve or through the dural veins to the posterior central optic nerve vein of Vossius.

If the dura is edematous the subdural or peripapillary bundles are involved and an enlargement of the blind spot exists. If the posterior central vein of Vossius is involved the papillo-macular bundle will suffer, as this surrounds the vein temporally and a central scotoma then results.

Occasionally a bony dehiscence is present and direct contact is possible between the sinus and the orbit.

CONDITIONS AFFECTING BLIND SPOT

1. Congenital malformations.
2. Myopia.
3. Retrobulbar neuritis, including toxic amblyopia.
4. Papillitis.
5. Sympathetic ophthalmia.
6. Papilledema.
7. Commotio retina.
8. Glaucoma.

1. A coloboma may include only the disc or be so extensive as to involve the macula, producing an absolute scotoma.

Opaque nerve fibers usually produce only a relative color enlargement.

2. In myopia the antero-posterior diameter of the eyeball is lengthened. The blind spot is enlarged by the pulling away and atrophy of the choroid and retina. By charting the progress of a posterior staphyloma the index of the amount of pulling away and consequent atrophy of the choroid and retina is ascertained.

The blind spot enlargement is towards the fixation point. The retina between the macula and the disc is most important and it is this area which seems to be affected in myopia. The status of this area is an important consideration in the prognosis of myopia.

3. The study of the blind spot is of greatest aid in diagnosing focal infections, including accessory sinus disease. Even a mild

sphenoid or posterior ethmoid may incite an inflammation of the optic nerve.

Sinusitis of the frontal, maxillary or anterior ethmoid seldom causes changes in the blind spot.

Toxic amblyopia was recognized by Von Graefe, in 1856, to cause an enlargement of the blind spot. The diagnostic findings are a bilateral enlargement of the blind spot with a relative scotoma extending towards, if not actually involving, the point of fixation. It is characteristic of over-indulgence in alcohol or tobacco.

The effect is toxic. The course of its action is not certain. It may be that the papillomacular bundle has greater susceptibility on account of its more highly specialized function.

Caffein, quinine, lead and multiple sclerosis cause field changes characteristic of toxic amblyopia. It is possible that individual optic nerves have tolerance or susceptibility to toxic influences.

4. Chronic interstitial nephritis, hypertension and diabetes cause a neuroretinitis which causes an enlargement of the blind spot. This occurs early and before albuminuric retinitis is present.

5. Papilledema. The blind spot is enlarged in choked disc due to edema and pressure on the nerve fibers at the disc margin.

6. Maitland Ramsey and Sutherland ascribe the enlargement found in sympathetic irritation, which is a vertical increase to the turgescence of the superior and inferior retinal veins.

7. The retina is attached firmly to the choroid at the optic disc and the ora serrata. Between these points the retina and choroid are loosely attached by areolar tissue. In injuries to the globe, the line of fracture usually extends from the optic disc, causing an enlargement of the blind spot in the direction of this rupture.

8. Bjerrum investigated by means of his tangent screen the area surrounding the blind spot. He found scotomata present as an enlarged blind spot associated with a peripheral sector defect by a positive or relative scotoma. Seidel's sign is a sickle shaped projection at the upper or lower pole of the blind spot and is part of a Bjerrum scotoma.

SUMMARY

1. The study of the blind spot has been found to be of diagnostic or prognostic aid in congenital malformations, myopia, retrobulbar neuritis, papillitis, papilledema, sympathetic irritation, toxic amblyopia, commotio retina and glaucoma.

2. The tangent screen offers an easy and quick method of estimating the size of the blind spot.

3. It is important clinically to note edema and enlargement of the blind spot for in this stage drainage affects considerable and frequently immediate improvement.

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SERUM REACTIONS*

WITH REPORT OF A CASE

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Ever since the discovery of diphtheria antitoxin by Roux and Yersin,[1] in 1888, clinicians have been confronted with the small but important minority of cases in which the serum, far from doing the good expected, produced alarming, if not fatal, results.

At first, the untoward accidents from serum therapy were attributed to the antitoxin itself, but it was soon demonstrated that the horse serum and not the antibodies was the causative factor in these reactions. Then came the demonstration of the principle of anaphylaxis in animals and it was but a short and easy step to explain the serum reactions in man. It followed, as a corollary, that the proper application of methods of desensitization which had proved successful in animals ought to prevent any of the previous unpleasant reactions which had followed the administration of serum to some humans.

But in spite of the theoretical precautions these reactions have continued to occur and, while they are not common, they are spectacular and may prove fatal. It is unfortunate that even in the medical profession the diagnosis of "anaphylactic death" still carries with it some implication of carelessness on the part of the attending physician.

Animal experimentation undoubtedly has given rise to a sense of false security in the handling of cases of anaphylaxis, and there are several reasons why the results of the experiments on lower animals should be used with extreme caution. In the first place, Park[2] has pointed out that the lower animals are easy to sensitize while man is relatively refractory, and that it has not been possible to sensitize monkeys satisfactorily. Furthermore, all the animal experiments on anaphylaxis depend on the previous injection of the specific protein to attain the anaphylactic state. These experiments, therefore, cannot be safely compared with the situation in the asthmatic who has a severe reaction the first time he comes in contact with a protein.

INCIDENCE

Park[2] estimates that one person in 20,000 receiving injections of serum will have alarming symptoms, that is, collapse; and one in 50,000 dies from such reaction. Most of these, he considers, belong either to the asthmatic group or to that pathological group designated by the term "status lymphaticus." Chills are considered as manifestations of a relatively different reaction which is dependent on the degree of refinement of the serum. Only 1 per cent of patients receiving serum composed of only the globulin fraction have chills. About 10 per cent of patients receiving ordinary refined serum manifest chills, while 20 per cent to 60 per cent of those receiving unrefined serum give this reaction. Apparently the incidence of chills is inversely proportional to the refinement of the serum.

Sutliff[3] recently reported a series of 371 patients treated with a refined anti-pneumococcus serum consisting essentially of a solution of globulin precipitated by water. Of this series twenty-three patients (6.1 per cent) had reactions due to intravenous injection of the serum. Nine patients (2.4 per cent) had severe, alarming reactions. Of the twenty-three reactions only three had had previous intravenous injections of serum and only one gave a history of hay fever, so that nineteen reactions occurred in individuals who were apparently not sensitized by previous injections and as far as could be ascertained did not have a history of allergy.

DESENSITIZATION

Reasoning from the results of experimental anaphylaxis in animals Besredka[4] in 1910 suggested the method of "desentitizing" humans which is relied upon today by a large share of the medical profession. A description of it occurs in some form or

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other in most of the text-books dealing with the subject of administration of serum and the implication in many instances is that, properly followed, every case ought to respond. Gradually increasing doses of serum are given hypodermicaly at intervals of 15 minutes and followed later by intravenous administration.

On the other hand, Tuft[5] says of this method: "A careful review of the literature has failed to find anyone who has clearly proven the value of these methods of prevention." He states that death from the first injection of serum is more common than from the second injection and in any event the death usually occurs in an asthmatic.

Tuft,[5] Boughton,[6] and Koch[7] all have reported single fatal cases from the administration of serums by the method of Besredka. It is only fair in this connection to say that Mackenzie and Hanger,[8] in their recent report on the subject, criticized the method in these latter cases. One especially was criticized because the first intravenous dose was six times the last preceding subcutaneous dose. This does not seem a fair criticism when one reads that Boughton's case with horse asthma died from the single injection of one minim of horse serum intravenously.

In this connection it is enlightening to report a case in our experience which fortunately had a favorable termination.

CASE

A student nurse, 21 years old, and in good health, was knocked down by an automobile at 10:50 P. M. and taken to the Accident Room of Cleveland City Hospital. Examination of the patient showed her to be conscious and perfectly oriented but emotionally unstable at the time. A deep scalp laceration was the principal injury sustained, although she had several severe bruises on her arms and legs and one in her left flank. The wound was cleaned and sutured and she was admitted to the hospital for the night, as this is a routine procedure with nurses. It was considered advisable to administer the usual prophylactic dose of anti-tetanic serum. The patient was questioned and denied ever having horse serum in any form or having had any allergic symptoms. An injection of 0.1 cubic centimeter of horse serum was given intradermally and produced a wheal about 2 centimeters in diameter. The 1,500 units of anti-tetanic serum filled a volume of 2 cubic centimeters. This was divided into 6 equal parts of 0.33 cubic centimeter each, and one part was injected into the deltoid muscle every 15 minutes until all was administered. The precaution of pulling back on the plunger of the syringe to prevent injecting into a vein was used.

The patient felt perfectly well until 20 minutes after the last injection, when she began to cough slightly, and to complain of a peculiar drawing sensation in her face. Within two minutes a marked edema of the face occurred which practically closed her eyes and she slumped into a semi-comatose condition. There was no asthmatic breathing; the respirations were slow and regular. The radial pulse could not be detected. The heart sounds were feeble, regular, and between 40 and 50 per minute.

Epinephrine was administered intramuscularly in two doses of 1.5 cubic centimeters each. The radial pulse slowly returned and it was at this time that the blood pressure was first taken and proved to be 80/40. The patient was unconscious for about 20 minutes, then the edema of the face cleared considerably, although it did not entirely disappear. When consciousness returned, the patient complained of nausea and vomited several times. The leukocytes at this time were 22,500 per cubic millimeter. The patient was watched closely by means of blood pressure readings and pulse counts until 6:00 A. M. After that she fell into a restful sleep and felt well upon awakening several hours later. She then recalled after close questioning that when she ate radishes or strawberries she developed urticaria, and that an older sister had had hay fever many years before. On the sixth day after the injection of serum, the patient had a rather severe serum sickness consisting of slight rise in temperature and generalized urticaria. The patient was discharged as well ten days after admission.

COMMENT

The case reported above is interesting from the rather unusual fact that 6 doses of serum were given to an allergic individual at 15 minute intervals without any evidence of anaphylactic response until 20 minutes after the last one. None of the injections were given intravenously as far as can be ascertained. The technic in this case is not open to the criticism applied to one case—of being 6 times the previous dose.

It will be noted that the injections were all given within a period of 1½ hours. Tuft[9] has studied the rate of absorption of large (50 cubic centimeters) intramuscular injections of horse serum in two patients and the same amount injected subcutaneously in a third and concluded that serum was absorbed as quickly by one route as by the other. By means of precipitin reactions he showed that only a slight trace of the 50 cubic centimeters appeared in the blood in 1 hour and that the maximum was attained in 15 hours. Absorption was practically complete in 24 hours. If this can be applied to our case it will be seen that there must have been an exceedingly small amount of the 2 cubic centimeters of serum in the blood stream at the time when the reaction occurred.

Considering the small amounts of antigen involved it would seem highly impractical to attempt by any method to desensitize al-

lergic persons in any short length of time, as Besredka advised.

METHODS OF PREVENTING REACTIONS

From the foregoing it would seem of extreme importance to recognize individuals who have an allergic background before any serum is administered and, if possible, dispense with it entirely in such cases.

The recognition of allergic cases is not as easy as is sometimes supposed. Provided the patient is able to give it, an intelligent history of sensitization both in himself and his relatives, linear and collateral, is probably the greatest single aid.

Skin tests are of limited value only. Alexander[11] states that only 50 per cent of asthmatics give positive skin tests, although this figure may be considered by others as too low.

Spicer,[12] in a study of 353 patients, concluded that the ophthalmic test was more valuable in indicating sensitiveness to horse serum, as it was less delicate, and therefore, when positive, indicated a higher degree of sensitivity. In no patient in her series who had a negative ophthalmic test did a serum reaction occur although many of these had positive skin tests.

Insley[13] recently reported an observation which is worth remembering and trying in an emergency. In patients who are known to be highly sensitized to pollens he has been able to control severe reactions from hypodermic injections of the pollen extracts by the use of a tourniquet control to the site of injection. He uses the cuff of a sphygmomanometer and applies between 100 and 120 millimeters of Hg. pressure, gradually lowering and raising the pressure slightly. He finds that he rarely has to keep pressure applied longer than 60 minutes. This method has also been used successfully in the administration of antitoxins at the Herman Kiefer Hospital in Detroit.

CONCLUSIONS

A case of severe serum reaction in an allergic individual is reported following the intramuscular injections of antitetanic serum.

It is deduced from the circumstances of this case and from several reported by other writers that the Besredka method is not a sufficient precaution in the administration of horse serum to allergic individuals.

Several precautions against serum reactions are reviewed, namely:

1. Recognize allergic individuals before serum is administered, by
   a. history
   b. skin tests
   c. ophthalmic test.
2. Refuse to administer serum to allergic patients unless absolutely necessary.
3. Attempt to control reactions by tourniquet, if possible.

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PYRIFER IN THE TREATMENT OF LOCOMOTOR ATAXIA*

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Dr. Simmerling,[8] in 1927, was the first to report his results in the treatment of locomotor ataxia with pyrifer. Since then many observers have reported their experiences in various medical journals of Germany and Austria. Our own experience dates back to May, 1929, at which time we began treating well advanced cases knowing that there was no particular danger connected with this form of therapy and anxious to confirm the results obtained by our German colleagues.

Pyrifer consists of a suspension of dead colon bacilli, previously cultivated in milk. When injected into the blood it produces fever. The preparation comes in ampules of 1 c.c. and varies in strength. There are seven progressively increasing strengths of suspension made. Strength number one consists of fifty million dead colon bacilli; strength number seven (VII) contains five billion dead colon bacilli.

A series of twelve intravenous injections are given as a complete course of treatment. The injections are given every other day. The increase in dosage is so controlled that each subsequent dose produces a rise of temperature not less than 1 degree above the preceding dose reaction. It is extremely important that the ampules be thoroughly shaken in order to get uniform suspensions of the preparation. A group of eight cases with tabes dorsalis were selected. Six of these were men and two women. These cases were selected at random from our neurological department. Each patient was thoroughly examined by our resident, Dr. Cantor, to determine the physical fitness of the patient to undergo treatment. Those individuals that were debilitated were given only one-half to three-fourths of the standard dose. In this way we were able to control the patient. In view of the paucity of cases and the limited duration of our observations we are not prepared at this date to evaluate fully the benefits derived from this medication. Therefore, we shall concern ourselves in this preliminary report with some of the interesting features of the reactions obtained. All of the cases selected for treatment were far advanced cases showing definite spinal cord changes as manifested by sensory, motor, and reflex disturbances. Pyrifer was administered on alternate days intravenously and the dose was increased progressively from No. I dose of the first day to No. VII[4] on the twenty-fourth day. The temperature, pulse, white blood count, blood pressure, and subjective symptoms were carefully noted on the day of injection and on the days following the treatment, with a view to ascertaining whether there was any relation between the reactions of the patient, both subjectively and objectively.

We report the clinical observations in two of our cases merely as an illustration of the course of the disease.

Case 1.—G. P., age 41, was admitted to the hospital November 11, 1927, complaining of ataxia, sharp shooting pains, and weakness. Examination revealed irregular pupils, the right being larger than the left. Neither reacted to light, but both reacted to accommodation. The knee jerks and pain sense were absent. Gait ataxic. The fundus examination showed a primary optic atrophy. Spinal fluid, Kahn, negative; no cells. Gold curve 255110000. Patient then left the hospital before the treatment could be given. He returned again to the outpatient department on March 2, 1928, complaining of ataxia. Lumbar puncture at this time showed spinal Kahn, ++++; colloidal gold, 43321000, and multiple cells. Patient was then given a course of Hansonian treatment. The patient soon left the hospital again. We saw the patient again on October 1, 1929, and at this time his gait was very ataxic, his vision exceedingly impaired. Evidently no benefit from previous treatments. Pyrifer was then begun on October 3, 1929. At the end of the course the patient showed considerable improvement. His ataxia was lessened and generally he felt better. His vision remained unimproved.

Case 2.—A. W., age 45. Patient entered hospital August 10, 1928, complaining of ataxia, which was so marked as to prevent her from even standing; also sharp shooting pains. The examination revealed: pupils unequal, did not react to light but responded to accommodation. Knee jerks lost. Deep pain sense lost. Blood Kahn was ++++. Spinal fluid: globulin, negative; sugar 80 mmg.; Kahn, negative; colloidal gold $$1112100. The report from the University of Michigan Hospital read: Blood Wassermann ++++; spinal fluid cells, 4; alb. +; Wassermann ++++; gold curve, 2233321000; mastic, 211000. Diagnosis: taboparesis. Between April, 1925, and November, 1926, eighteen injections of tryparsamide were given. The intervals between courses were filled with mercury and potassium.

*Read before the Staff of Eloise Hospital, December 18, 1929.

†For professional note see volume 28, page 241.

Upon discharge her blood Wassermann was negative; spinal fluid: albumin, +++; gold curve, 0001110000; mastic, 110000. We began pyrifer treatment on May 28, 1929. Following the cure the patient no longer complains of sharp shooting pains, although inability to stand up still exists.

COMMENTS

Our observation revealed that the reactions as expressed by a rise in temperature are not as vigorous with the use of pyrifer as with the malaria treatment; all of our cases responded with the characteristic reactions, *viz.*, fever, chills. The highest temperature reached in our entire series was 103.2 degrees, with an average temperature of 101 degrees. The maximum duration of fever was six hours, the minimum was two hours, the average duration of fever lasting three hours. Unlike in malaria, the temperature in pyrifer therapy can be controlled. The injection is usually given in the morning; the temperature rises and remains elevated until noon, but thereafter the temperature gradually declines so that the patient has a comfortable afternoon and is able to sleep during the night. These factors are very essential in the maintenance of the resistance of the patient.

On the injection-free days the patients may be allowed to walk. There was no delirium in our entire group. Initial chills were observed in almost all our cases, appearing as early as two hours after injection and lasting, on an average, one hour. The drop of temperature was by crisis, and usually initiated by profuse perspiration of short duration.

General malaise of mild nature was also noted in all of our cases and manifested itself by muscle and joint pains. Subjective symptoms were mild; nausea and vomiting were relatively infrequent. In no case was jaundice, diarrhea, or persistent constipation noted.

An interesting detail encountered in our series was the behavior of the leukocytes. Invariably these decreased slightly on the day of the injection of the pyrifer, but on the following day the leukocyte count was found to have doubled, reaching as high as 22,000. The initial decrease, although slight, did drop to 5,000 in one case. The elements of the blood increased and decreased proportionately, there being no preponderance of the one type of cell at any one time. The red blood cell count did not change, nor were there any changes in the morphology of the cells.

The changes in the blood pressure were also carefully noted. We had the blood pressure taken soon after each injection and on the same afternoon of the injection. The blood pressure was then taken twice a day for as long a period of time as the pyrifer was administered. We at first had observed that there was a gradual rise in the blood pressure. With successive injections the blood pressure, although there was some increase, gradually declined, until with the twelfth injection the blood pressure was found to be at the same level as at the onset of the treatment. It was also observed that the afternoon readings of blood pressure were invariably higher than the morning blood pressures—there being an average increase of 14 mm. of Hg.

No changes were observed in the genitourinary system.

An interesting observation was noted in that there was a marked exaggeration of the lancinating pains when these were present before the treatment. With this exception, there were no noticeable sensory changes as a result of the treatment. The occurrence of headache and dizziness in our series of cases was insignificant, never being severe when they did occur.

No special diet was given to our patients. They ate the usual hospital food.

A review of the results of the treatment with pyrifer reveals that two of the patients were able to return to work, whereas at the onset of the course of treatment work was impossible. Five cases showed distinct improvement, but not sufficient to warrant discharge. One patient died of an intercurrent infection.

The ataxia and the sharp pains showed the greatest effect of the treatment. In all cases treated there was a cessation of pains; the improvement in the ataxia varied from a complete disappearance, which was observed in one case, to mild improvements observed in three others.

In view of the fact that the reactions caused by pyrifer treatment are apparently harmless to the patient, while the results observed are favorable, we think this preparation merits further trial. It is particularly advisable to use the preparation in locomotor ataxia, because cases with ataxic symptoms show 62 per cent failure when treated with

malaria[7] (Wagner Von Jauregg). Among further advantages which pyrifer possesses is that the treatment can be administered at home, and that it is easily accessible. Because tabes dorsalis is not necessarily a fatal condition, it is not advisable to apply drastic remedies such as malaria. In this respect pyrifer seems to be more suitable. It is evident that pyrifer is not only instrumental in the arresting of the destructive metaluetic process in the central nervous system, but probably possesses some healing qualities as manifested by the improvement of the ataxia. Pyrifer seems to stop, or alleviate, the gastric crisis as well as the lancinating pains. This fact is not only in itself of great importance, but in the absence of pain nutrition and sleep are much better and thus increase the patient's resistance.

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SINUSITIS IN CHILDREN

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In dealing with the problem of sinus disease in children, it is my purpose to cover the following points: (1) The nature and development of the sinuses; (2) the causes of sinus disease; (3) the signs and symptoms; (4) the diagnosis; (5) the possible complications; (6) the treatment; and (7) by correlating these findings, to show how important this problem is in the everyday practice of medicine.

It is pertinent at the beginning to mention briefly the development of the accessory nasal sinuses. The paranasal sinuses begin their development from the third to fourth month of fetal life. They arise as invaginations of certain areas (anlage), situated in the mucous membrane of the lateral nasal walls. The sphenoid sinus is an exception, being rather a constriction or separation from the posterior and superior region of the nasal fossa. These invaginations later become sacks and by futher growth, expansion and absorption of bone they form pneumatic cavities (the sinuses).

This occurs in the frontal, ethmoid, maxillary and sphenoid bones. Some of the sinuses grow far away from the point of initial invagination, but their point of origin is marked by an opening called the ostium. It should be remembered that there is no set scale for the development of the paranasal sinuses. As a matter of observation, normal sinuses vary greatly in size, shape, septa, diverticula, anatomical relationship, and many times in number. This is important, both from the clinical as well as anatomical standpoint.

All sinuses, with the possible exception of the frontal, are present at birth. The sinuses do not complete their full development until the ages of 9 to 15 years. Normally the sinuses are small in content. This can be seen by the following table, showing measurements from birth to adolescence.

MAXILLARY SINUSES (DIMENSIONS)

A.	At Birth	
	Length	8 mm.
	Width	4 mm.
	Height	6 mm.
	Hugs nasal wall—above floor of nose.	
B.	Age 1 Year	
	Length	16 mm.
	Width	5 mm.
	Height	6 mm.
C.	Age 3 Years	
	Length	23 mm.
	Width	10 mm.
	Height	12 mm.
D.	Age 8 Years	
	Length	29 mm.
	Width	18 mm.
	Height	17 mm.

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E. Adult
Length ..... 34 mm.
Width ..... 23 mm.
Height ..... 33 mm.

The variations in the floor of the maxillary are as follows: At one year the floor is 4.2 mm. above the nasal floor. At 8 to 9 years the floor is on the same level as the nasal floor. After 10 years the floor is 1 to 25 mm. below floor of nose.

ETHMOID GROUP

A. At Birth

	Length, Width, Height
Anterior Group	5 × 2 × 2 mm.
Posterior Group	5 × 4 × 2 mm.
B. At 5 Years	
Anterior Group	8 × 7 × 6 mm.
Posterior Group	8 × 10 × 7 mm.

C. Adult
Anterior Group
Length ..... 33 mm.
Width ..... 11 mm.
Height ..... 23 mm.
Posterior Group
Length ..... 21 mm.
Width ..... 12 mm.
Height ..... 21 mm.

SPHENOID SINUS

A. At birth has capacity 6 to 8 cubic mm.

	Length, Width, Height
B. 2nd year	4 × 3 to 5 × 2 mm.
C. 9th year	5×12×10 mm.

D. Adult Average
Length ..... 12 mm.
Width ..... 18 mm.
Height ..... 20 mm.

The sphenoid sinus hollows out the body of sphenoid bone and has an air capacity varying from 5 to 30 c.c. when completely developed.

FRONTAL SINUSES

Until the latter half of the first or beginning of the second year of life, rudiments of frontal sinus occupy *ethmoidal topography.*

At the end of the second year it has grown in vertical frontal bone to the following dimensions: Length, 5 mm.; width, 3 mm.; height, 4 mm.

At eight years it has normal adult dimensions: Length, 20 mm.; width, 24 mm.; height, 28 mm.

Because the paranasal sinuses in the young are still in the developmental stage, pathological conditions at this time may more readily produce permanent changes in the lining mucosa. Either atrophic or hypertrophic areas in the lining mucosa produce a chronicity, that reaches into adult life, and explains the difficulty of overcoming many of the chronic cases.

In speaking of the causes of sinus disease in the young we can take into consideration all factors responsible for upper respiratory infection. Sinus disease is not always primary but generally due to contributing factors.

The causes of sinus disease can be classified as follows:

I. Local
II. Systemic
III. External

I. Local causes (obstructive)
- A. Hypertrophied adenoids
- B. Hypertrophied or septic tonsils and adenoids
- C. Septal deflections and enlarged turbinates
- D. Mouth breathing due to:
  1. High arch palate
  2. Thumb sucking, etc.

Local disturbances interfere with the function of the sinuses as an adjunct to respiration and warming and moistening the inspired air. They also interfere with the function of the nose itself and its aid in regulating body temperature. Prolonged interference causes improper development of the nasal accessory sinuses, with a resultant facial deformity and also an impairment of body and mental development. Due to its proximity, the eustachian tube may be involved, with a consequent impairment of hearing. The obstructive lesions, though mechanical in nature, produce a vicious circle of congestion and infection with the accompanying symptoms which will be taken up later.

II. Systemic Causes
- A. Respiratory infections
- B. Acute exanthemata
- C. Improper diet
- D. Auto-intoxication
- E. Allergic

Of the respiratory infections, the most common are "colds"; then come influenza and pneumonia. These diseases involve the accessory nasal sinuses, the degree depending upon the severity of the infection and the normality of the nasal structures. In pneumonia, an empyema of the maxillary may result not unlike an acute purulent otitis.

The acute exanthemata (occurring chiefly in the young) produce terrific reactions in the upper respiratory regions, including the nasal accessory sinuses. This is exemplified in fatal cases of diphtheria. Autopsy findings in many cases showed the nasal cavities

completely filled with a pseudomembrane; as were also the frontal and ethmoid cells, while the maxillary and sphenoidal sinuses were approximately half full. The profuse excoriating nasal discharge in these cases indicates an infection of one or more of the sinuses. When there is local obstruction, there may occur a chronic sinusitis which at the same time makes the patient a carrier of the infection.

With the advance in recent years of the knowledge of vitamins, the dietary has come to play an important rôle in medicine. It has been my experience that a large per cent of sinus patients are poor eaters, and at the same time improperly fed, lacking foods containing Vitamin A. Shortage of Vitamin A during the first three years may cause a lowered resistance to respiratory infections which continues until the age of eleven years. At the same time, a careful history will elicit the fact that the patients are constipated and they are always taking laxatives of one sort or another.

Allergy is usually associated with hay fever, asthma or urticarial reaction. However, allergy plays no small part in nasal and sinus disease. Very frequently there is some object in the dietary such as potato, milk, or eggs, the elimination of which will aid in the modulation or cure of the disease. This is particularly true of infants who are on a constantly changing dietary. Feather beds, pillows, etc., have been responsible in other cases. Physical allergy, as heat and cold, should not be overlooked in the production of nasal and sinus disturbances.

III. In conjunction with allergic causes, one must consider external factors such as local atmospheric conditions. It must be remembered that the nose treats with the physical property of the air, while the lungs treat with the chemical property. In conjunction with the skin, the nose aids the heat regulating mechanism of the body through sympathetic nerve connections. This explains how readily the nose is affected by atmospheric impressions on the surface of the body. Under ordinary circumstances the nasal organs can adjust themselves to the variations in the physical properties of the air, but it suffers in the advent of unusual and unnatural states of extreme heat, cold, moisture or aridity. These extreme variations in the physical properties of the air may paralyze the mechanism of reaction. This happens in drafts and in homes where the air is superheated and vitiated. It is a common observation that the majority of respiratory diseases occur in the winter months. The physical properties of the air are most unfavorable at this time. The humidity of the air is normally above sixty in the summer and it reaches below twenty in mid-winter. Add to this the overheating of homes that is so common in this part of the country and we have a definite harmful influence. This accounts for the many cases of upper respiratory and sinus disease in the winter months.

The symptoms of sinus disease in the young are quite the same as those of adults. As a rule children do not complain of their own accord, and we must look for signs rather than symptoms. There is usually present a chronic discharging nose with a history of frequent head colds. There is more or less mouth breathing. There is usually some alar eczema. Infrequently there is an asthma. In empyema there is more discharge, with a possibility of extension into the orbit with visual disturbances. Children swallow nasal and sinus discharges, as they have a tendency to empty posteriorly. This may give rise to gastro-intestinal disturbances. Cough is a common symptom of sinus disease. It has been mistaken for bronchitis and tuberculosis. The cough is worse on lying down; that is, when the child is put to bed there is an aggravation of the cough. On arising, there may be a paroxysm of sneezing.

In the acute stage these symptoms may be accompanied by fever. In the chronic cases there usually is no fever or a slight afternoon temperature. Sinus cases as a class do not thrive, are below par, and are cross and irritable, though mentally alert.

The diagnosis of sinus disease in infants is comparatively easy. The signs and symptoms are helpful for diagnosis. Transillumination may help, and X-ray, because of the thinness of the bone and the fact that the lining membrane has not become chronically thickened, is more reliable than in the adult type. Examination of the nose shows the congested mucosa with thick mucous or purulent secretions. A diagnostic puncture of the antrum may be done, but is as a rule not advisable. One may be called upon to differentiate sinus diseases from errors of refraction, infected teeth, gum abscesses, unerupted teeth, headache, neuralgias, and indefinite facial pain. The coöperation of

the dentist in the latter cases should be solicited.

In the treatment of sinus disease, the first thought should be in reëstablishing ventilation. Sinus disease not only produces obstructive breathing, but there are harbored disease producing germs and secretions. Nature's method of clearing these regions, by blowing, snuffing, and hawking, is interfered with. It is not necessary, and frequently more useless, to instill powerful antiseptic drops, particularly those contained in an oily base. Remove the obstructive adenoids, or adenoids and tonsils; use adrenalin or ephedrin drops at frequent intervals. Suction at home or office can be provided for by the many appliances on the market.

These not only aid in an effectual cleaning, but produce a passive hyperemia of benefit to these regions. Acute uncomplicated cases usually heal spontaneously and surgical intervention is only safe in the maxillary antrum. Radical surgery on the maxillary should never be done before the permanent teeth have erupted.

Of equal or greater importance to the local care is the attention that should be directed to the general welfare of the patient. The diet should be rich in Vitamin A. This vitamin increases resistance to infections of the sinuses and the lungs. A list rich in Vitamin A is as follows:

1. Milk
   Butter
   Cheese
   Eggs
2. Orange
   Grapefruit
   Pineapple
   Banana
3. Thin green leafy vegetables (raw cabbage, spinach, lettuce, green string beans, peas)
   Yellow corn
   Yellow sweet potatoes
   Carrots
   Tomatoes
4. Liver
   Kidney
   Sweetbreads
   Brain
5. Cod-liver oil

In addition to supplying Vitamin A, this dietary will help remove constipation. Bacillus acidophilus can be given in cases that suffer from a light degree of this latter complaint. The temperature of the room should be between 68 and 70 degrees and the heat outlets should be provided with humidifying appliances. These furnish additional moisture to the air, which is so essential in the prevention of accessory sinus disease. Some cases demand a change of climate. A careful study of the beneficial effects of climate on sinus disease leads to the conclusion that extreme southern Florida is most suited, chiefly for the reasons that the air is clean, pure, soft and warm throughout the whole twenty-four hours in all seasons. Extreme southern California is next in favor. Local, systemic and climate therapy must frequently be combined in resistant cases. It must be remembered that temporizing is dangerous. The sinuses may act as a focus of infection, not unlike the teeth or tonsils.

In this connection, observers have found thirty-seven well established general diseases that have their origin from this source. Among these are mentioned serious affection of the heart, skeletal muscles and arthritis. To this may be added pulmonary conditions, as asthma, bronchitis and suspicious tuberculosis. Due to the anatomical relationship, complications extending to the eye, meninges and brain are not infrequent.

There was a time when a chronically discharging nose was considered a necessary evil of childhood. With the increased knowledge of the anatomy, etiology and treatment of sinus disease, there is no excuse in neglecting the large class of these cases. *Many are still inclined to attribute all ills of the nose to diseased adenoids and tonsils. This view is persisted in even after thorough tonsillectomy and adenectomy. This is altogether wrong. It is, in fact, dangerous.*

Only by the proper evaluation of sinus disease in children, can we hope to successfully cope with this problem and its complications.

INTUSSUSCEPTION OF THE BOWEL WITH OVERSHADOWING NEUROLOGICAL SYMPTOMS: A FATAL TERMINATION WITH AUTOPSY

REPORT OF A CASE

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The following case is of much interest on account of the unusualness of symptoms and the difficulty in diagnosis. A surgical operation and a subsequent autopsy lend value to the case.

The patient, a six year old boy, had been an inmate of the Protestant Orphan Home of Detroit for seven months. He was an undernourished child, described as nervous and rather restless by the superintendent and nurse. On various occasions while at play he would suddenly yell out, throw up his hands and when asked what he was doing he would replythat he was playing Indian.

On Tuesday, November 25, before Thanksgiving he had swallowed some red crayon. He did not say anything about it until Wednesday morning, November 26, when, upon awaking, he tried to induce vomiting by putting his finger into his mouth. During the day on Wednesday, November 26, he vomited lightly two or three times and complained of a few spasmodic pains in the abdomen, each lasting only a few seconds and each leaving him entirely free from discomfort. Aside from these symptoms he was normal in every way. Wednesday night, November 26, he had his usual sleep. Thursday, November 27, again he had two or three light vomiting spells. An enema given during the day was returned colored with what the nurse stated to be the crayon pigment. She said specifically that it was not blood. There was no temperature nor pulse change. It may be said that the chewing of crayons, colored or uncolored, is such a common vice among school children that little importance is attached to it.

Having had a number of gastro-intestinal disturbances following the ingestion of crayon, at the Asylum, some quite severe, and at least one case in which the child had actual convulsions, the above symptoms and signs, as given over the telephone by the nurse on Thanksgiving afternoon, suggested nothing but one more digestive disturbance. A few 1/10 gr. tablets of calomel were ordered which were given (four in all). The patient had a normal bowel movement Thursday afternoon. Thursday night he was very restless, tossing around a great deal but not complaining of anything in particular. Friday, November 28, 8:00 A. M., he had his first convulsion. When seen at 10:00 A. M. he had a tonic-clonic spasm which began in his left arm, soon spreading to the whole body, lasting a few minutes. There was a lateral nystagmus in both eyes, absent abdominal reflexes, a bilateral Babinski. Attention was immediately directed to the cerebro-spinal axis and the following information was elicited: Ten months prior to admission he had suppuration in both ears for a period of two to three months. Three years prior to this he had a scalp wound which suppurated off and on for a year, finally discharging a spicule of bone, and healing promptly afterwards. However, he was not unconscious at the time of the injury, was not laid up, and had no X-ray of the skull. These significant facts further confirmed suspicions of a probable cerebrospinal lesion.

On completing the routine examination, however, a mass was found the size of a lemon in the right lower quadrant. Palpation of the mass failed to elicit any pain reflexes. Aside from noting aloud to the nurse that he might have an appendiceal abscess with secondary toxic manifestations, the tentative diagnosis was some cerebrospinal disease with this mass unexplained, but suspicious. The patient was unconscious and tenderness could not be determined. The abdomen was negative otherwise, in fact it was scaphoid. Dr. Douglas Donald and Dr. William Donald saw the case at 1:00 P. M. in consultation while he was in another generalized convulsion. They concurred in the diagnosis of a cerebrospinal lesion, probably brain abscess, or poliomyelitis, on the basis of his history. The patient was brought to the Evangelical Deaconess Hospital at 2:00 P. M., where a spinal puncture disclosed the fluid to be under normal pressure, 9 cells to the cn. mm. with a negative globulin, and a slight increase in sugar. The smear was negative for micro-organisms. A complete blood count was negative except for 18,000 leukocytes with 82 per cent polys. The temperature upon admission after several convulsions was 100. The pulse and respiration were not significant. An X-ray of the skull ordered at once was completely negative, no lesions being found in the mastoid or petrous or temporal bones, nor any shadows suggesting abscess. Dr. Shawan, surgeon in charge at the Orphan Asylum, saw him in consultation at 6 P. M. and concurred in the diagnosis of some cerebral lesion. He, like the others, also felt the mass as described and found the rest of the abdomen also as described above. While he mentioned the possibility of a beginning intussusception, or a congenital cystic kidney because there had been no urine passed for a number of hours, his feeling was, as ours, that we were dealing with pathology in the cerebrospinal tract. It was agreed to wait until morning in the hope that the picture might unfold itself more clearly. There were two or three convulsions during the night and involuntary urination. An ophthalmoscopic examination by the house physician at night showed a marked hyperemia of both retinæ with negative nerve heads. There was no blood chemistry done.

The following morning when seen at 11:00, there was definite abdominal distention with the mass as described above. It was then obvious that, whatever else was present, we were dealing with an acute surgical abdomen, the exact nature of which was unknown. The attention of the attending physicians thus shifted perforce from the head to the belly, and the case was placed in the surgical hands of Dr. Shawan.

His report follows:

12:30 P. M., November 29, 1930. At operation, eighteen inches of the terminal ileum were found to be telescoped through the ileocecal juncture into the ascending colon so that the head of the projecting mass reached the first portion of the transverse

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colon. The head of the cecum and appendix were not involved. The gangrenous portion, as well as the caput coli and appendix, was removed en masse and an end-to-end anastomosis was performed. During operation it was noted there was complete lack of peristalsis in the distended proximal small intestine. The wound was closed with drainage. Stimulants and saline subcutaneously were administered during the operation. Following operation, large amounts of hypertonic saline solution were given by hypodermoclysis.

Four hours after operation, the child was brighter than at any time since his admission to the hospital. He answered questions in a rational manner and was begging for water, which was given him. Nine hours after operation, he had a convulsion, which was the first he had had since his operation. Three hours later he had a large watery defecation which was reported to contain some blood. This was repeated shortly thereafter. In spite of large amounts of saline and active supportive treatment, he died twelve hours after operation. The apparent cause of death was dehydration and alkalinosis with intestinal paresis as noted above. One of the interesting postmortem findings was the pouting of the edematous anastomosis into the distal large intestine. The stoma found at autopsy barely admitted the tip of the index finger. Autopsy Report.—November 30, 1930, 11 A. M., by Dr. Plinn Morse. Skull cap and all it contained entirely normal. Chest entirely normal. Abdomen showed healing taking place in the sutured area of the bowel, with the remaining structures in the abdomen entirely normal.

SUMMARY

1. A case of intussusception of the bowel with absence of almost all of the classical symptoms—pain, bloody stool with tenesmus, and constant vomiting.
2. A history of trauma to the head and ears at various times within the previous three years.
3. A history of periods of temporary excitement at periods during past seven months (suddenly crying out with raised hands while at play so that the attendants were attracted by his actions).
4. The ingestion a day before sickness of unknown quantities of colored crayons, which being discharged by rectum gave a blood tint of suspicious character to the stools, and thus confused the issue.
5. The small painless tumor mass below the appendix area, in a scaphoid abdomen, which was the only suggestive clue to a correct diagnosis.
6. A demonstration of the unqualified value of autopsy examination.

THE DOCTOR'S LOG*
1930

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"Beyond the east the sunrise, beyond the west the sea,
And East and West the Wanderlust that will not let me be,
It works in me like madness, to bid me say goodbye!
For the seas call and the stars call,
And oh, the call of the sky!"
"Wanderlust"—by Gerald Gould.

"Through travel, all history, art, literature is made more alive, more vivid to adult minds and how much more to impressionable youth?"

Here we all are in our bathing suits on the warm sands of the Normandy Coast at Cabourg. Two days ago we left Paris, driving via St. Germain, where we peeped at the Chateau of Henry IV. Noon found us at Mantes, where we partook of a lunch in the garden of the Hotel Grand Cerf. The cathedral there with its historical background was fine to see. We drove on through the delightful valley of the Seine. It was in the middle of the afternoon that we entered Rouen, a busy industrial town. Here the Maid of Orleans met her death in the Market Place. There are tributes to Jeanne D'Arc, the finest woman of French history. The cathedral has a tomb said to contain the heart of "Richard Coeur de Lion," and the burial place of Rollo is there. The city has a number of fine churches, all good examples of architecture and all containing objects of extreme interest. Rouen possesses several museums, an excellent Palais de Justice and numerous interesting old houses. But the heat, noise and dirt did not enhance its interest for us. We drove on In just such cases we proved the advantage of motoring in our own car, a sturdy Cadillac with 40,000 miles to its credit. We could always go on when we were not satisfied. At evening we stopped before our hotel, went in, inquired about rooms with baths, whether they included taxes and pourboires,

*This is the fifth "Doctor's Log" that has appeared in the Journal of the Michigan State Medical Society. Dr. Stapleton is an inveterate traveller with the faculty of keen observation. He prefers the automobile as a mode of travel to any other means. His party consisted of Mrs. Stapleton and their son and daughter, all of whom report a very satisfactory summer vacation. The doctor has a lot of information of interest not only to the automobile tourist but to any one contemplating post-graduate studies at the great European centers of medical learning.—Editor.

asked to see them and then decided. The prices of accommodation are much more reasonable than at home. The hotel keeper, I believe, realizes the necessity of catering to the motorist and is prepared to give rooms with baths whenever they are obtainable.

In this case it was to tiny Pont Andemer that we drove, putting up at the 17th Century Inn called the *Vieux Puts,* or *Old Wells.* We entered through the old coach way and parked the car where horse-carriages used to stand. A delicious meal appeased the appetite, then a walk, a smoke, and, as Pepys was fond of saying, "so to bed."

With the morning we were away along the good roads, through the Normandy apple orchards heavy with fruit. Soon it was to be made into "le cidre" for the excellent flavor of which the country is noted. The roads were hidden between high hedges. How like England! A turn in the road and we were beside the sea. It was the land of William the Conqueror and chock full of historical as well as present day interest. There was Honfleur, Trouville, and just across the river the world famous resort Deauville, the "Beach of Flowers," which seemed a truly beautiful place. It has grown from a small market place for the fishermen to a rendezvous of ultra-fashionable society. Then came Villers, Heulgate and Dives-sur-Mer, where we stopped for tea, a grand affair at the Inn of "William the Conqueror." It was a marvelous "tea" of short breads served with jam and thick cream. We wandered through the beautiful gardens of the Inn. In its rooms a goodly number of famous men have stayed. There was Guy de Maupassant, Hopkinson Smith, Alexander Dumas, both the elder and the younger Dumas, and others we found from their names printed on the doors of the rooms they occupied.

Then on, reaching Cabourg to loaf for a few days before going to Cherbourg to sail for home.

MOTORING IN EUROPE

Our speedometer now shows a few hundred miles over 5,000 for this summer's trip. This has been our third motor trip abroad, which gives us a total of 15,000 miles. We have many times been asked why we take our automobile to Europe instead of traveling in the usual manner. Briefly for the following reasons: There is no trouble. One simply fills out a blank, describing the car and its equipment, turns it over to the Steamship Company, who do the rest. One's automobile club can also make the necessary arrangements. Through the Royal Automobile Club of England all arrangements are made. The car must be made ready for shipment almost a day ahead of sailing time. When landing the car is prepared, then a few signatures, and thank you to the R. A. C. representative, and away you go.

The roads are, for the most part, excellent. A few notable exceptions are Belgian roads and the Italian highways along the Riviera. Save for England and a good portion of Austria, the driving is to the right. One finds none of the congestion of traffic such as is found in America. At times one can drive for miles and never see a car. We have driven in London, Paris, Berlin, Dresden, Rome, and a number of other great cities without difficulty. Certainly anyone who drives in Detroit could drive in Europe with ease. We find it necessary to have maps though the roads are usually well marked. The Michelin maps are excellent. They are accurate and extremely reasonable in price. Everywhere we were greeted with the greatest courtesy and the police are most polite to foreigners. The few repairs we had were inexpensive and the highest garage charge for a night was eighty cents. Usually we paid thirty or forty cents. Gasoline can be obtained almost as easily as at home, but both gasoline and oil are expensive, gas being approximately fifty cents a gallon and oil varying from one dollar to a dollar and a quarter per gallon. All in all, traveling by motor in Europe seems to me cheaper than by rail.

Up the River Elbe we sailed, the pilot boarding just past Cuxhaven to guide us the remaining seventy miles to Hamburg. The river trip is delightful. We discovered Hamburg by the very forest of ships' masts. A Soviet vessel with its "red flag" was tied up at our pier and we learned that we were to wait until morning to land. Here we had entered "Das Vaterland" with its medieval cities, spas, the storied Rhine and so much more that makes it the center of Europe, its history and culture going far back into the centuries.

Hamburg is one of the free and Hanseatic cities of Germany with a tremendous trade by land and sea. We went out to the Hagenbeck Park, universally famous for its unusually fine collection of animals. Here a good many of them are trained for circuses. Our own Detroit Zoo is modeled after it.

Hamburg, while essentially a maritime city, has an excellent school for Tropical Medicine, one of the finest institutions on the continent.

We drove via Celle to Hanover, where it is said the purest German is spoken. Leibnitz, the philosopher, lived in the city from 1676-1716. Von Hindenburg has a home there. One sees a number of fine palaces, churches and streets.

From Hanover we made our way to Hamelin, arriving at noon. We spent a delightful lunch time seeing the town, made famous by Browning's "The Pied Piper of Hamelin," the mouse catcher "par excellence," who, legend tells us, in the year 1284, when the city was visited by a plague of rats and mice, offered to free the inhabitants from this pest. The Piper, playing the flute, enchanted all the mice, who followed him to the River Weser, where they were drowned. The burghers refused to pay the price agreed upon, and the Piper blew once again on his flute, but to a different tune. The delighted children trooped after him and danced to the magic music until they came to a mountain which opened and received them. They never returned. The poem was written to amuse the sick little Willie Macready. It is rather interesting to note in connection with this poem that Doctor Walter Starkie, of Trinity College, Dublin, believed the Pied Piper to be no myth, but a reality, according to the stories gathered during his wanderings among the gypsy tribes of Europe. Dr. Starkie, who is a distinguished linguist, scholar and musician, bases his studies on his intimate knowledge of gypsy life and lore.

We wanted to see the more than seven hundred timbered houses and numerous museums of Hildesheim. The town is over a thousand years old, an old Hanse town. The market place is greatly admired by lovers of medieval architecture for its Roland Fountain and its Butcher's Guild Hall. We lost our way, but were guided back by a young German who had lived a year in Detroit.

Shortly we came to Braunschweig, the home town of *Tyl Eulenspiegel*. A very entertaining English translation of this famous character's life is by Charles de Coster. The "Deutsches Haus," an old-fashioned hotel, gave us rooms, huge sleeping chambers where we had enormous feather beds and a bath room the size of a dining room at home. On the window ledges bloomed flowers in long boxes. In Brunswick, in 1829, Faust was produced for the first time. Here rests the lonely thinker Gotthold Ephraim Lessing. The poet was librarian in the town Walfenbuttel when he wrote "Nathan" and "Emilia Galotte." We visited the interesting parts of the town, the old Schloss, and Lessing's home.

At noon we parked in the Stadt-Market of Goslar, where stands the century old Rathaus. The town has a "Kaiser Haus" of Saxon architecture, the inner walls of which are covered with very fine murals showing various phases of German history. From Goslar we drove to Goettingen, famous for its university, known as the "world's mathematical center." Among its professors are several Nobel prize winners. There are large clinical institutions to which patients come from all over the world. In the university one can take a course of *English* philology. There is a splendid art gallery, with the usual study courses and many scientific collections as well as antiquities. The summer term was in session and the students could be recognized easily by their caps. One could see from the fresh cuts on many of their faces that duelling has not yet been abolished.

Leaving Goettingen by terrible roads, we arrived at Eisenach about dinner time. The world knows Eisenach by reason of the Wartburg with its memories of Martin Luther. Bach, the musician, lived, composed and played there. Near the "Hotel der Rautenkranz" is the church where Bach was organist. To the right on high stands the Wartburg. St. Elizabeth, Walter von der Vogelweide and the Meistersingers are connected with the castle. Luther took refuge there in order to carry out the tremendous task he had set himself of translating the Bible from Latin to German. The room where he worked and where, so the story goes, he fought with the Devil, is to be seen.

While there he conceived the idea of that magnificent hymn, "A Mighty Fortress Is Our Lord."

From Eisenach, through Erfurt with its remarkable cathedral. The city has many associations with Luther and Gustavus Adolphus. It was one of the chief centers of the Humanists. In the afternoon we made Weimar, a place of pilgrimage for so many people.

Two days were spent at Weimar. Here lived Goethe, Schiller and Liszt. The former two are buried side by side in the Ducal Vault. It was these two poets who, at the court of the Duke Carl August (1775-1828), and the Duchess Anna Amalia, founded the classical school of German poetry, and together with Wieland, Herder and others, made this place the intellectual center of Germany. For over fifty years Goethe lived here and the city is filled with associations of him and of the many other celebrated men of letters who gathered there. In Sudhoff's "Essays on the History of Medicine" are two interesting articles, entitled "Goethe and Johannes Müller," and "Goethe's Physician, Privy Councilor Abel." The Parkhotel Erbprinz is in a distinct class. The rooms are not numbered, but bear the names over the doors of the famous people who occupied them. Liszt, Goethe, Schiller, Richard Wagner, Napoleon are among the number. Weimar is considered the spiritual capital of the country and it was there that the first German Assembly convened after the war to draw up the New Constitution on democratic principles. In the Opera House one sees the German Independence Hall. Read Ludwig's "Goethe." The story of the relationship between Goethe and Schiller is one of the classic friendships of the world. On the road we visited Jena, the university town famous for the Ziess Optical Works. Also for the victory of Napoleon over the Prussians on October 4, 1806. Next we reached Halle, an important industrial place which possesses a university of some repute, as well as a number of other very fine educational institutions. The Frederick Wilhelm University with its medical institutes is world famous. Halle was the birth place of Händel, the great master of the oratorio.

Then on to Eisleben, a town filled with reminiscences of Martin Luther, the house in which he was born and died, the church of St. Andrew with Luther's pulpit, Saint Peter's church with its font where Luther was baptized. Koenig, the inventor of the surface printing press, was born in Eisleben and his house is still standing. This is in the region of the Hartz Mountains, the well known haunts of canaries. Our tour took us through Quedlinberg, a favorite royal residence, and Mansfield, where Luther lived as a boy and went to school. Evening brought us to Wittenberg, where Luther resided for years, and is said to have nailed his ninety-five theses to the door of the Schloss Kirke. The church contains the graves of Luther and Melanchthon. Their statues stand side by side in the Market-Platz. We drove by way of Potsdam, the former home of Frederick the Great, to the capital of Germany. Berlin is one of the great cities of the world. Every inducement is held out to the tourist—American Bar, Restaurant, Soda Fountain, "English Spoken," and many more. From a medical standpoint Berlin has much to offer, particularly to the German-speaking medical men.

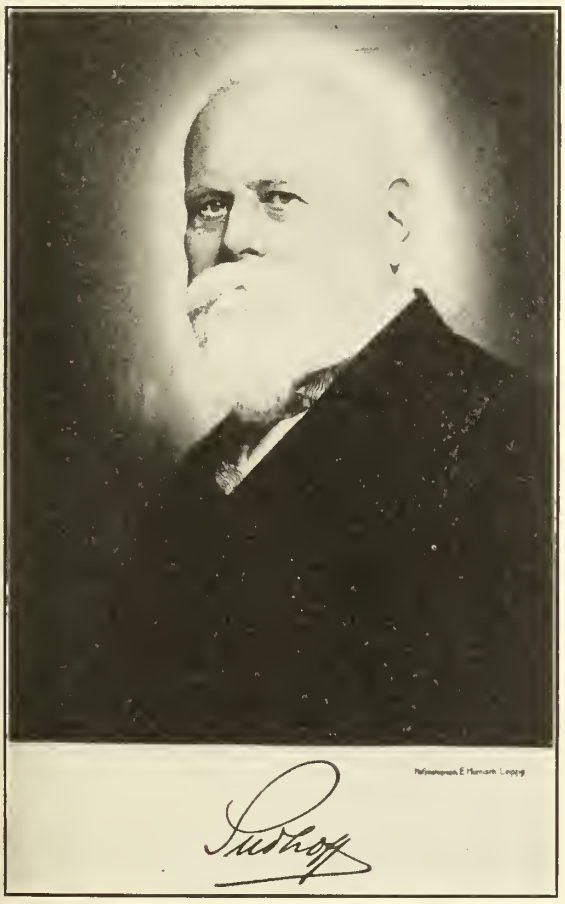
KARL SUDHOFF AND LEIPZIG

From Berlin we drove to Leipzig, which was of special interest because it is the home of Karl Sudhoff, the great medical historian. He is now "Professor Emeritus" of the department of Medical History in the University of Leipzig. Early in the morning I walked over to the University to visit the "Institut für Geschicte die Medizin." Through the courtesy of Dr. Timken, an assistant in the department, who telephoned Dr. Sudhoff, I was permitted the privilege and pleasure of calling upon the leader of Medical History in the world. He was most courteous, and I experienced one of the real moments of my life in this interview. He speaks excellent English. I was shown his two workrooms filled with books and manuscripts. At seventy-seven years, Dr. Sudhoff has retired from active life and is completing his monumental Life of Paracelsus.

I returned to the Institute, where I was greeted with a second pleasure, that of being received by Professor Henry E. Sigerist (Director), successor of Karl Sudhoff. Besides English, he speaks French, German, Italian and Arabic. A long talk and a complete tour of the Institute were my privilege. I cannot say enough in thanks for his kind-

ness. Professor Sigerist is coming to Johns Hopkins shortly to give a course in Medical History at the newly founded department for that study. What an opportunity for his students!

Leipzig, famed for its world fairs and as a seat of the renowned university, is located in Northwest Saxony on the historical site of the Thirty Years' War. Since 1409,



Karl Sudhoff
Famous Medical Historian

when its university was founded, Leipzig has been a center of culture visited by such men as Leibnitz, Bach, Goethe and Gellert. The university, sample fairs and the fact that it is the chief publishing center of Germany combine to make Leipzig one of the foremost cities of Germany. It will interest all travelers to know that the "Baedeker-Guide Books" and the Tauchnitz editions are published here in the city. One of its finest buildings is that of the book-selling trade. Lovers of music flock to Leipzig for its musical attractions. The fair grounds are immense. The international fur convention was being held at the time of our visit and I hadn't realized that there were so many animals to be killed until I saw the thousands of skins displayed there.

On the little river Meisse in upper Saxony is the small town of Meissen, famous for its "Dresden China." On our way to Dresden we stopped to visit the celebrated works. Going through the factories one can see the various processes whereby the porcelain is made. For the medical traveler the place has another attraction. In it was born the "Father of Homeopathy."

Christian Samuel Hahnemann was born on April 10, 1755. The word homeopathy cames from the Greek "like" and "feeling." This system of therapeutics is based on the law, *"similia similibus curantur."* There is an old home, a statue, and a street there named after him. He was educated in the school at Meissen, where he proved himself an exceptional student. He went on to Leipzig and Vienna to study medicine. In Dresden he practised for several years, then went to Leipzig. In 1790, while translating W. Cullen's "Materia Medica" into German, he was struck by the fact that the symptoms produced by quinine in the healthy body were similar to those of the disordered state it was used to cure. He had previously been greatly dissatisfied with the condition of medical practice. His belief was that the doctors did not study their patients sufficiently, that they depended too much on prescriptions handed down to them from their fathers. His studies led him to assert the truth of the law of *similars*, i.e., diseases are cured (or should be treated) by those drugs which produce symptoms similar to them in the healthy. Later studies convinced him that smaller doses than were generally employed were more efficacious. Hahnemann then announced the doctrine of potentization or dynamization. In 1810 he published his chief work, "Organem der Rationellen Heilhunde," describing his system. Afterwards he published his "Reine Aiznermittelehre," giving his experiments with drugs on healthy subjects. In 1812 the hostility of the established interests and the druggists whose services were not required under his system, forced Hahnemann to leave Leipzig. From there he went to Cothen, where he was employed by the Grand Duke. Fourteen years later he removed to Paris, where he was very success-

ful until his death on July 2, 1843. In many respects he was a remarkable man and did a service to medicine. A most interesting account of his life is told by Thomas L. Bradford in "The Life and Letters of Dr. Samuel Hahnemann." There is a statue of Hahnemann in the city of Washington.

DRESDEN AND THE INTERNATIONAL HYGIENE EXHIBIT

Almost thirty years ago, the great industrialist, Carl Lingner, was the means of having the first International Exhibit of Hygiene. In the year 1930 we now see realized what Lingner proposed, the monumental German Museum of Hygiene. Here for the first time has been assembled all that is held significant to the health of our own generation. The creation of this museum is an appendage to the Central Institute for the Cultivation of Health. What a change has taken place in this humanly important branch of science since 1911. The generation which has grown up has to live under utterly different conditions and has itself set up quite a fresh standard in regard to health and its preservation. Humanity and racial hygiene, motherhood and infancy, health and sickness, nutrition, the cultivation of health at different times and among the different peoples, physical culture and gymnastics, vocational hygiene, clothing, foodstuffs, superstitions and science, the mind and mental hygiene—in brief the great human problem of the present day is what the Dresden International Exhibition of Hygiene deals with. In all sections of the Exhibit, science and industry coöperate toward a common goal. Theory is here awakened to life by industrial practice. The halls of the Exhibit represent a city in miniature, while the beautifully laid out grounds provide ample opportunity for recreation.

About twenty nations are represented, and, I am sorry to say, the exhibit under the American Flag in the "Platz der Nationem" is the poorest of the lot.

Dresden contains the first Baroque buildings of Germany, the wonderful, Royal-built Zuringen, the Green Vault and Galleries. Here is the divine Sistine Madonna and one of the finest river esplanades in Europe—Detroit should utilize its river front in the same manner.

We went then to Bayreuth where one recalls so much of that genius of music, Richard Wagner. We visited the Opera House and his grave, an unmarked slab in the garden of his home. The life of this man and of his associations with the mad king, Ludwig of Bavaria, made entertaining reading material for the physician and especially for the psychiatrist.

WURZBURG AND ROENTGEN

Then we went to Wurzburg, another German university town, where the X-ray, one of the greatest of boons to mankind, was discovered. Wurzburg means one real thing to the doctor, and that is Roentgen. The old town on the Main River is delightful. Its history dates back to the year 741. I walked out to the university, where, on the wall of the Physics Building, is a simple inscription stating that the X-ray was discovered by W. C. Roentgen in 1895. One can see the laboratory practically as he worked in it. I understand that a movement is now on foot to reproduce exactly as it stands the laboratory from the Physics Building at the Great Fair to be held at Chicago in 1933. I don't know how greatly it appeals to my reader, but to me it is a tremendous thrill to see the places where medical history has been made. Unfortunately Professor Roentgen, who gave this priceless gift to suffering humanity, died a broken-hearted man.

Everybody knows Rothenberg and its charms. We wandered about a short time in the ancient walled town and drove on to Dinkelsbuhl. We had heard Burton Holmes talk of it and so put it on our list. We were fortunate the following day to see the thousand year old town put on a pageant "Die Kinderziche in Dinkelsbuhl." It told how the children saved the city from the conquest of Gustavus Adolphus during the Thirty Years' War.

Via Nordlingen we came to Augsburg, famed for the *Confessio Augustana,* its memories of Luther and the remarkable Fugger family. One can visit the "Fuggerei," the tiny walled community of almshouses built in 1519 within the city by the great family for the poor deserving Catholics. Augsburg is called the "City of Fountains," where "every stone tells a tale." In Roman days they called it *Augustus Vindelicarum.* It was founded by the Emperor Augustus. Both the Holbeins and Leopold, the father of Mozart, were born there. We stayed at the "Hotel Drei Mohrens" (The Three Moors), which I consider one of the

most delightful hotels in Europe. It is built about a garden court where as one eats he may listen to excellent music. On its register are the names of Sir Walter Scott, Sir Thomas Lawrence, Goethe and Casanova. In the streets are many bronze fountains made by some of the first sculptors of the Renaissance. In the Rathaus the "Golden Hall" is made after the Doge's Palace in Venice. Its ceiling is an unusual feature, for it is suspended by seventeen chains.

The *Confessio Augustana* was read before the Emperor Charles V and the representatives of the Empire and of the Roman Catholic Church in the Hall of the Episcopal Palace in Augsburg on June 25, 1530. This year that event is being celebrated. To think that New York did not exist and London had about ten thousand people! There were no railroads, telephones, radios, autos and the people of Europe had not smoked tobacco nor tasted chocolate. Then Germany was a world empire. The *Welsers* of Augsburg were just preparing to establish colonies in the newly discovered America. There were none richer in Europe than the Fuggers of Augsburg, who held the monopoly in silver, quicksilver and copper. Then the city was an international metropolis, now it is a quiet Bavarian provincial town. Of course it has changed but one of its old residents coming back would not be lost easily. The Fugger Haus is still standing. The "Weberhaus" is scarcely changed in its old place. There are the guild houses, the church of Saint Anne, and its monastery where Luther met the Cardinal Cajetamus. Here is the Fugger chapel, called the earliest and noblest Renaissance monument of Germany. The town is known for the work of the celebrated architect Elias Holl. A remarkable city! The exhibit of Luther's works and historical documents is most complete. In a previous "Log" I told my impressions of Munich. I will not repeat here. No traveler in Germany should pass by Munich if he cares for wealth and excellence of music, art, food and medicine. Do not miss the world famed Deutsche Museum. It is a veritable marvel of completeness and perfection.

From Munich we went to Hohenschwangau through Bavarian countryside. We climbed the steep hill to Neuschwanstein. After lunch we walked to the Hohenschwangau, the old castle. The former was infinitely more impressive than the latter. To describe the decorations that Ludwig II caused to be used in his new castle necessitates a book.

A short drive brought us to Oberammergau, where we were to see the Passion Play the next day. There is music and color and nothing to disturb the religious feelings of any individual. There is no make-believe at all at Oberammergau. The Passion Play is a living belief.

AUSTRIA

After Oberammergau we drive over the beautiful Fern Pass to Garmisch-Partenkirchen and Mittenwald through wondrous mountain scenery.

In the heart of Europe, where the magnificent snow clad mountains, the Eastern Alps, meet Europe's most famous river, the Blue Danube, is nature's perfect setting for Austria. If one loves beauty, romance, art, music, health, amusements, or schools, here he will find it.

Vienna's Medical Faculty attracts annually thousands of American and other physicians, who wish to complete their studies. Vienna offers unequaled opportunities in its manifold clinics. There is a Summer School of the University from July until the middle of August.

THE WONDER MAN OF GALLSPACH

All Austrian and German physicians have risen up in arms over the activities of Doctor Zeilers and his Institute in Gallspach in Austria. From all the world people are coming to him to be treated for every possible ailment. As far as I have been able to ascertain from those who have taken his treatment, it is as follows: One purchases a ticket and is escorted with groups of ten or more into a room where there is said to be a 600,000 volt electric apparatus, the patient indicates the region of the pain and the "Wonder Man" points a metal rod, which has a wire attached running to the machine, at the spot, there is a flash, the patient feels the electricity entering the body, he puts on his clothing and leaves, another group enters and so on all the day. From a small village, Gallspach has grown to hold the fine sanitarium and hotels to accommodate the crowds. The Professor himself lives in an old castle. Such, in brief, is the story of the man who is causing a

great deal of discussion as to his methods in the medical profession of the two countries. The illustrated journals are filled with pictures of the town and its "Miracle Man."

We stopped at Innsbruch where the main street seems to stretch off to the mountains and clouds. We ascended the Hungerberg in a Zugspitz, a harrowing experience. So we drove to St. Johann-in-Tyrol and then our route took us back to Germany to see Herren Insel, where Ludwig II had built the most gorgeous castle of all, a replica of Versailles. It is situated on an island in the lake and has never been much used. Ludwig was there for only a short time before he died. The decorations and furnishings are most gorgeous.

Then we went to Salzburg, where one goes for the Reinhardt Festivals, where one encounters so many memories of Mozart, the Prince Bishops and that great man of Medicine, Paracelsus. Next we traveled to our home in Austria, the "Traummühle," between Bad Aussee and Grundelsee in the Salzkammergut. It is the home of my friend Hugo Haas that we visited for a couple of weeks, breathing the pure air ot the mountains. There I made notes in my "Log" in the "Stube," as the family living room is called. At night the radio brought us music from London, Paris, Rome, Venice, Prague, and other radio centers. When the time came for us to leave we started south to cross the Brunner Pass, built by Napoleon to enter Italy.

". . . A land,
Which was the mightiest in its old command,
And is the loveliest, and must ever be.
The master mold of nature's heavenly hand
Wherein were cast the heroic and the free,
The beautiful, the brave, the lords of earth and sea."
Lord Byron—"Childe Harold's Pilgrimage."

We drove over the Passo Del Giovo to Merano and Bolzano and thence through the awesome Dolomites to Venice. The Dolomites have been termed "the mountains that blush" due to their marvelous colors, of which red predominates. The roads gave one a busy time with their horseshoe, hairpin and devil's curves, but they are good. The title "Dolomites" was derived from the name of a great French scientist, "Comte de Dolomieu," who, toward the end of the eighteenth century, discovered that these fantastic mountains were of magnesium lime formation. The range is truly unique. They rise out of the grassy uplands and valleys, great masses of rosy hued rock of every conceivable form, no two alike. The wildness of the scenery is matched only by the beauty of its coloring. The valleys are beautiful, with their forests of pine, and meadows all ablaze with flowers in spring and summer, the clear, bubbling streams, little lakes and picturesque villages. There is the added interest that much of the terrible warfare between the Austrians and Italians took place in that region. This whole region once belonged to Austria. Go to the Dolomites for a thrill in motoring, good roads and fine hotels all the way.

VENICE

We spent a few rainy days in Venice.

"Venice, thou Siren of sea cities, wrought
By mirage, built in water, stair over stair,
Of sunbeams and cloud shadows, phantom fair
With naught of earth to mar thy sea-born thought!"
John Addington-Symonds.

This year all Italy is celebrating the second millennium of Virgil. It is well to note that Virgil included medicine in his program of studies. Virgil, like all ancients, though not like many modern humanists, could combine poetry and science harmoniously.

From Venice we drove to Padua where we lunched well and set out to explore. The University is exceedingly old and renowned. The inscription in the "Theatricum Anatomicum" is Hieronymus Fabricius ab Aqua pendente XXXI AM Anno Anatomi, Professore - Mi - Copernno — 1537 - 1619. Hieronymus was a pupil of Gabrielle Fallopius, who studied under Vesalino. Hieronymus was Harvey's teacher at Padua. This theater was built by him and here Morgagni worked. Garrison says that his studies of the effects of ligatures and valves in the veins influenced Harvey in his experiments to demonstrate the circulation of blood. There is a hall where one sees the coats of arms of the great men who studied there. There was the dissecting room, rows of seats in a circular form where students had to stand up, the body being brought up through a door in the floor.

We left Padua regretfully and went through Ferrara, a bustling place with a great castle and a goodly number of historical memories, and arrived about dinnertime at Bologna, and later drove to the immense stadium to hear the Italian tenor Gigli. It was a unique experience, to wit-

ness the excitable crowd. Bologna is extremely old; it has a fine university, said to be the oldest in Europe. There are unusual towers, the great fountain in the square, the arcaded streets (most useful in hot countries), a city all brick and stucco. It is a town in which to linger. Our hotel, the Majestic, was formerly the palace of the family Faval. We saw in the older rooms paintings by the Caracci.

Coming toward the Adriatic we reached Ravenna, the city of the Goths, where Theodoric lived and died. Dante is buried in a tiny chapel to which we made a pilgrimage. There are three beautiful churches here and the tomb of Theodoric, King of the Goths, now in a farmyard, back of the railroad tracks. Ye Gods! Once a ruler and supposed to have been buried in this tomb with a wooden fence erected around it, the gate of which is opened to tourists for three lire.

We pushed on and came to Rimini, the Atlantic City of Italy, where we loafed and watched the pyjama parade on the sands.

Fifteen miles brought us to the smallest republic of the world, San Marino, which boasts of a population of 13,000 and covers an area of 28 square miles. The town is on the sides and top of a steep mountain and *it is hot!* We walked about and saw the historic sights. A very complete republic that. Its army consists of 36 officers, 950 men, and one cannon. It was named after a saint. The republic is completely surrounded by Italy.

The hill towns lie in an irregular line between Florence and Rome and are best visited by motor. The other way necessitates many changes of trains and often the railroad stations are placed at a mile or more from the town. It is in Umbria that we visit the hill-towns. Among them is Viterbo, said to be noted for its handsome fountain and beautiful women. We found that the fountain was not so handsome and saw not one beautiful woman. Orvieto has as picture cathedral where one can see some of Signorelli's paintings, a grand museum, and it is famed for its wines—and by the way, if you like wines, it is usually well to drink the native wines of the region you are visiting. They are always cheap and good. This is no talk for a prohibition citizen, but there is one old saying that applies especially to Italy: "When in Rome, do as the Romans do," and not as your conscience dictates. To me one of the most interesting of the hill-towns is the city of Assisi, perched on its mountain sides, where St. Francis lived. Pilgrims, Catholic and Protestant, come from all over to pay homage to the great man and saint who is so loved by all. The church holds paintings of his life by Giotto.

Legend says that Perugia was founded by Noah. The city has countless art treasures. There are works of the Pisani here. The city is high up in the hills above the Tiber valley, has an old university, a great palace and much 14th and 15th century architecture. To me its glory is the wonderful view from the garden before the Hotel Brufani, a hotel not easily to be surpassed anywhere. In this region are the oldest olive trees of Italy.

Near Montefalco the lake of Trasimeni is to be seen, like a sapphire. Here Hannibal cut off the Roman army. Near by Spoleto was destroyed by Frederick Barbarossa. The cathedral has some frescoes by Filippo Lippi. The Roman built viaduct of the Spoleto was admired by Michael Angelo.

By way of the Roman Campagne we came to Rome, viewing the dome of St. Peter's from a great distance. It was over twenty years since I had last visited the Eternal City and now it has become an up-to-date capital. One really has to be extremely careful crossing the streets. The traffic is heavy, but well controlled by white-clad officers who wear tropical helmets. The bicycles "get one's goat," for there are swarms of them and they do make use of their rights, which are the same as the motorists'. As to the sights of Rome, there you have Pagan, Christian, Classic and Modern. I leave all that to the guide book. But of all the places, the old Spanish proverb fits Rome when it says, "He who would bring home the wealth of the Indies must carry the wealth of the Indies with him! So it is in traveling, a man must carry knowledge with him if he would bring home knowledge."

From the medical viewpoint, we find that Rome has a great university with a medical department. The University City is on the outskirts of the town and nearby is the immense Umberto Polyclinic. This district has its principal street named after the hospital, the surrounding streets bear names of

well-known physicians, an excellent idea. We drove to the Baths of Caracalla and, in a little booklet describing the baths, I found that Musa, a physician of Augustus, was the originator of the Turkish Bath. The story of the old Roman Bath is most interesting. We visited the Protestant Cemetery to pay homage to the poets Keats and Shelley. The graves are simple.

Percy Bysshe Shelley
Cor Cordium
Natus 18—Aug. MDCCXCII
Obit VIII—July MDCCCXXII
Nothing of him that doth fade
But doth suffer a sea-change
Into something rich and strange.

Keats' says:

This grave contains all that is mortal of a
Young English Poet
Who
On his death-bed
In the bitterness of his heart
At the malicious power of his Enemies
desired
These words to be engraved on his Tomb Stone
Here Lies One
Whose name was writ in water.

Here I also found the grave of Doctor John Bell:

John Bell
Surgeon — Edinburgh
Erected by his Colleagues
Natus 1763 — Obit 1820

He was born in Edinburgh and became one of the great writers of surgical anatomy. Being an artist of great ability, he illustrated his own books. Among the important works is his "Anatomy of the Human Body." His "Engravings," illustrating the different parts and organs of the body, 1764-18-4, the drawings, and almost all the etchings being his own, is a milestone in the history of anatomic illustration. Also there is his "Discussion on the Nature and Cure of Wounds," "Principles of Surgery." Along toward the end of his life, which was hastened by a fall from his horse, he went to Italy, where he died and was buried in the Protestant Cemetery at Rome. He left a book entitled "Observations in Italy," said by Garrison to be one of the best travel books ever written by a physician.

This little cemetery, the only non-Catholic one in Rome, is situated near the pyramid of Cains Cestus.

"Institute of Medical Culture." Varese is situated in a verdant corner of Italy, that is rich in mountains, lakes, and woods, a serene and poetical oasis. It is a health resort and a neighbor of some of the busiest and more modern industrial centers. The course is held from July 10-30. The "raison d'etre" of the Institute of Medical Culture is the benefit of Italian and foreign medical men to study the most discussed and interesting subjects of the day in the realm of science. Foreigners will be able to judge of the contributions of Italians to every branch of medical science, they will learn how much is being done and produced in our hospitals and institutions, what new battles are won each day and how many are due to Italian genius. The course for 1930 was "Cardiorenal Physio-Pathology."

The Isola Tiberiana is a small island in the widest part of Tiber, between the Aventine Hill and the Janiculum. Here is the site of the well-known hospital of the Fate Bene Fratelli (Do good, brethren), an ancient religious order founded by San Giovanni. There is quite a controversy on in Rome at present over the desire to enlarge the hospital. The slum surrounding it would have to be razed and the opponents of the scheme say it would destroy the picturesqueness of the scene. There is much tradition about "The Roman Island of Health." The story goes back to the year 293 B. C., when a plague of cholera all but wiped out the Roman population. The people applied to the national gods without result, then appeal was made to Æsculapius, the Greek protector of the healing art. A pilgrimage was made to Epindaro, the sanctuary of Æsculapius. Moved by the prayer of the delegation he allowed them to carry away a serpent in which he was incarnated. Arriving at the Tiber, the sacred serpent left the ship and swam ashore on the Island of Tiber. The plague ceased immediately. Shortly afterwards a temple to Æsculapius was erected. It became the center of the sanitary arrangements of Rome. Here, the methods employed by the Greeks were carried out. At the entrance to the bridge were shops for the sale of "ex votas" of all descriptions. In 1885 one of the shops was discovered and in it a great number of anatomical specimens in terra cotta, beautifully modelled from nature, representing human heads, eyes and ears. Three life size human trunks were cut open across the front to expose the mechanism of the human organs. Luigi Jakopii, from whom this is quoted, goes on to say that the island has

been a scientific center for many centuries. It is favored by its location. Centuries ago priests had been taught to diagnose the various illnesses and ancient manuscripts show that they had some knowledge of medicinal plants, the use of iron and oil as tonics, of honey as a lenitive, the use of laxatives and blood letting, of the blood of oxen in cases of anemia, the benefits of diets in obesity and intestinal diseases, and the benign influence of music in cases of nervous trouble. The present hospital was erected in 1572 and is one of the best known humanitarian institutions in Italy.

Our days in Rome were busy ones, but we ended our stay by throwing coppers into the Fountain Trevi. He who throws a copper into the Trevi Fountain before leaving Rome will return to the Eternal City again. So along the road we went, sometimes good road, sometimes bad, dusty with the white dust until we came to the art center of the world.

Florence is the birthplace of Dante, Petrarch, Boccacio, Michael Angelo, Leonardo Da Vinci and a host of other great men. The cathedral was begun in 1298 by Arnolfo and continued by Giotto and Brunelleschi. The magnificent campanile, designed by Giotto, is unequalled in grace. The Baptistry, the oldest structure in Florence, contains Ghiberti's wonderful doors, "pictures in bronze," which Michael Angelo declared worthy to be the gates of Paradise. All visitors go to the Pitti and Uffizi Palaces in which is treasured much of the finest of the world's painting and sculpture. There is the Church of Santa Croce, "the Westminster Abbey" of Florence, the Medici Chapel, with its masterpieces by Michael Angelo, the Academy of Fine Arts, the home of Angelo, Benvenuto Cellini, Dante and Galileo.

We spent a few days renewing old acquaintances in the city. Camille Mauclair in his book entitled "Florence" has these words to say, "She is the Athens of Christian Civilization, the City of the Shepherds, of the Monk, and of the Magi, and her dazzling intellectual history is the teacher of the modern world." And Lord Byron describes in Childe Harold's Pilgrimage, the approach to Florence.

"But Arno wins us into the fair white walls,
Where the Etrurian Athens claims and keeps
A softer feeling for her fairy halls
Girt by her theater of hills, she reaps
Her corn and wine and oil, and Plenty leaps
To laughing life, with her redundant horn.
Along the banks where smiling Arno sweeps
Was modern luxury of commerce born,
And buried learning rose, redeemed, to a new morn."

Owing to the summer heat the tourist will do well to choose some other time of the year to visit this beautiful city.

Pisa was a short stop. We revisited the Leaning Tower, the Cathedral, Baptistry, and the Campo Santo. In Pisa was established in 1464 the first detention station after the Black Plague.

Then we made our way to the sea shore. The Italian Riviera divides itself at Genoa into two distinct parts. From the east of Genoa, Portofino, Rapallo and the coasts of Spezia is the Riviera di Levante, or the "rising sun," the part that stretches off toward France is the Riviera di Ponente, or "the setting sun. The route along the coast of Italy was terrible. Repairs were being made. At one spot we had just rounded a bend and were parked at a distance for the blasting at the next curve, when a monstrous roar began and a side of the mountain fell, blocking the roads and low railroad tracks for hours. There is only one road along the coast, so everything was blocked. We returned to the town just passed and took lunch. After some time word came that the road had been cleared and we were able to pass. We were glad to come at last to the Italian and French border and find an excellent road along which we flew, going through Monaco and coming to Nice, where we rested a few days. Then on we drove along the French Riviera for a short distance until we turned off and took the way known as the "Route des Alpes" which led us to Grenoble. This road boasts being one of the finest mountain motoring routes in all the world. Our ride took us through the valley of the Var and the gorges of Daluis into the "Alpes Maritimes," over the Lantereta and Galiber Passes, the Isere Valley to Grenoble. From there we went on to Aix-les-Bains, to Annecy and to Chamonix, where we had that unforgettable sight of Mont Blanc. From Chamonix we drove to Evian, a celebrated spa, around Lake Geneva or Lake Leman to Montreux. Nearby is the Castle Chillon made famous by Byron in the "Prisoner of Chillon." Switzerland is well described by Thomas Aldrich in his "An Alpine Picture."

"And peak on peak against the stainless blue,
The Alps like towering campanile stand

Wondrous, with pinnacles of frozen rain,
Silvery, crystal, like the prism in hue
O tell me, love, if this be Switzerland—
Or is it but the frost work on the pane?"

SWITZERLAND

I visited Switzerland to see Dr. August Rollier's "Heliotherapeutic Establishment" for the treatment of surgical tuberculosis. Leysin is situated at an altitude of 4,000-4,500 feet, in the southern slopes of the Tours d'Aichain of mountains, close to the lake of Geneva. We drove from Montreux to Aigle and up a winding, steep road to the little village. The climate is particularly mild. The mountains protect the clinics from the cold north winds. As a rule there is little wind at Leysin, this being the most essential climatic condition for the practice of such cure. Even in December, January and February, the thermometer often rises to 105-120 degrees, Fahrenheit. During the whole time of sunshine, 9 A. M. to 4 P. M., during the shortest days of the year, the patients remain on the balconies, where they take their lunch. Dr. Rollier opened his first clinic in 1903 for the treatment by heliotherapy of all types of surgical tuberculosis. This method had not as yet completely won the confidence of the medical world. Since then, thanks to the experience of Dr. Rollier and his assistants, helio-therapeutics has become the treatment "par excellence" for the following ailments: Pott's disease, coxalgia, tuberculosis of the knee, foot, upper limbs (shoulders, elbow and hand), osteitis of the cranium, of the ribs, of the sternum, tubercular adenitis, tracheo-bronchial adenopathies, Paucet's rheumatism, ileo-coecal tuberculosis, intestinal tuberculosis, fistula, tuberculosis of the ear, ear-lupus, numerous non-tubercular ailments, open wounds of all kinds, cutaneous affections and osteo-myelitis. Tuberculosis of the kidney and bladder improves under the influence of heliotherapy used as an adjunct to the necessary surgical measures. The solar bath cures rickets and prevents the outbreak of tuberculosis in predisposed persons. Patients suffering from pulmonary tuberculosis are not admitted to the Rollier Clinic. Such cases are treated in Sanatoria of "La Societe de la Station Climaterique de Leysin." A stay in high altitudes and sun baths is not indicated for patients suffering from amyloid degeneration, from ulcerous enteritis with diarrhea, and cardiac ailments not compensated. On condition that they are trained thereto with care, patients can undergo the sun cure without inconvenience whatever their age may be, whether children a few weeks old or aged people of more than seventy.

There is great variety in construction and comfort of Rollier Clinics. However, they have the following features in common: they are perfectly organized for sun cure, they have balconies, terraces, a solarium, roofs upon which the beds of the patients are put during the sunshine hours and whenever the weather allows them to benefit by the air cure. They all have rooms with either one or several beds. The latter, besides the fact that they are more moderate in price, present the further advantage that bedridden patients can converse easily with one another. Those who find it tiresome to spend several months in a room feel more comfortable in the company of one or two fellow patients. "For children, who are numerous in our clinics," says Dr. Rollier, "common life is the absolute rule." Thanks to this the little patients, immobilized by illness, are never lonely, and they greatly appreciate the companionship of other children in the dormitory or on the cure-balconies. I shall never forget the children we saw as Dr. Rollier showed us his clinic and explained his methods of treatment. He is a kindly man and in my ears lingers the sound of their voices as he approached. It was a long murmur of "The Doctor, the Doctor," but the accents can't be expressed on paper. It made me think of a scene in Maeterlinck's "Blue Bird" when the mothers welcome the babes from heaven. There were two English physicians from Oxford, a German from Heidelberg, two Frenchmen and myself in the group that Dr. Rollier walked and talked with. He speaks English fluently, and French and German as well. In regard to diet, Dr. Rollier explained that bedridden patients, exposed to sun-rays, require special dieting. He advises meat once a day and advocates a lacto-vegetarian and fruitarian diet, but forbids all alcoholic drink.

All child clinics have arrangements for education, so that no small patient need be much behind his healthier school friends when he returns to normal life.

I was interested in talking with some Eng-

lish children and found that they spoke French and German quite easily as the result of associaton with the other children. And among the numerous child patients, there were only three who did not look happy. They were severe cases. Such happy appearing sick children, every one with some one of the surgical conditions mentioned in the beginning! The patients bedridden here have amusements in moving pictures, lectures and concerts. Children have the old "Classic" Punch and Judy shows. Religious services are available, opportunities for all Alpine sports, walks, excursions, and some attractive shops well stocked.

One other thing that also impressed me was the varying price of the clinics so that one with limited means could be cared for. Here comes in the "International Factory Clinic" for the "Treatment by Sun and Work" of indigent cases of "Surgical" tuberculosis. As its title indicates, it is an effort to cure the man or woman who is ill and has no money to pay for treatment. The motto of the clinic is "From the Sun Cure to the Work Cure," the attempt being made to solve a tremendous social problem. Dr. Rollier said to me, "Your tariff has very nearly put an end to one part of our work." He then explained that the watchmakers formerly sent part of their work to the Work Clinics. Now, due to the tariff, they have less demand for the Swiss watches, and thus deprive the patients of their work. Several thousands of miles away an action takes place and its effects are felt on these sick people in their efforts for cure. Time and space do not permit of more detailed description of the clinic and its founder. If the reader feels himself interested, let him read the pamphlets in English, all well-illustrated, which tell the story better than many words, namely: "The Sun Cure"; "The Healer" (The People's League of Health, London); "Heliotherapy" (Oxford University Press); "The International Factory Clinic."

On we went around Lake Geneva to Lausanne and Geneva. We visited the home of "League of Nations" and from an American professor, Dr. W. H. Roberts, from Hillsdale, Michigan, who is guide there, we learned something of the workings of the institution. Geneva has a world famed university. We drove about the famous city, viewing among other things the Reformation Monument, Rousau's Island and the home of Calvin.

DOLE

Leaving Geneva we drove by the Route des Juras to Arbois, the home of Pasteur. We stopped at Dole, where he was born. I walked down near the river to the Rue Louis Pasteur and saw in the wall this inscription.

Ne a Dole Dans Cette Rue
1822-1895
Illustre Savant
Benefacteur de Humanité.

And in a slum-like street outside the walls and bordering on the bank of the canal is the birthplace of the genius. The house is being maintained by a "Society of Friends of Pasteur." Here are many relics of the great man which are of intense interest to the medical man. Although Pasteur was not a doctor, his work influenced medicine to such a degree that medicine cannot pay its debt to him. I lingered in the twilight looking at the various belongings of the great one and then went out with a silent prayer of thanks for what he had done for mankind.

From Dole we had a pleasant drive by way of Dijon where the Harper Unit was stationed during the war. We went through the forest of Fontainebleau to Paris. There I made a pilgrimage to the Rue Dutot to the Pasteur Institute and stood with bowed head at the grave of Pasteur. There is no name on the marble; the walls on both sides bear inscriptions listing his various discoveries. On the step was a wreath of still fresh flowers from a delegation of Japanese physicians. It is a beautiful room after the manner of the tomb of Galla Placidia at Ravenna. In the yard is a statue to the first rabies case. On either side of the street are found the laboratories.

To the physician who speaks French, Paris has a great deal to offer. Efforts are being made to accommodate the physician whose speech is limited to English. A permit to visit all the hospitals of the city may be obtained from an English speaking secretary at the School of Medicine. The French have a commendable custom of naming their hospitals after their great doctors.

For the rest of Paris, allow me to quote Montaigne:

"I must needes looke on Paris with a favorable

eye. It hath my heart from my infancy, whereof it hath befalne me as of excellent things, the more others faire and stately cities I have since seene, the more her beauty hath power and doth still usurpingly gaine upon my affection. I love that Citie for her owne sake, and more in her merely subsisting and owne being, than when it is full fraught and embellished with foreign pompe and borrowed garish ornaments: I love her so tenderly, that even her spotts, her blemishes and her warts are dear to me. I am no perfect Frenchman, but by this great matchlesse Citie, great in people, great in regard of the felicitie of her situation, but above all, great and incomparable in varietie and diversitie of commodities: The glory of France, and one of the noblest and chief ornaments of the world. God in his mercy free her, and chase away all our divisions from her."

MEDICAL CARE BY GOVERNMENT

The various systems in England, Germany and Austria where medical care is one of the functions of the governments have been for the most part failures so far as the medical profession is concerned. The English newspapers rarely put out an issue without a letter of complaint from the doctors operating under the system. It is grossly unfair to the physician who is made to bear the brunt of the one-sided system. He is a "goat" of the government and of the people who are treated by him. His success depends on the number of patients trusted. If he, for example, does not do as the patient wishes in regard to filling out blanks showing he is unable to work when the physician can find no defects, he simply transfers his card to a more obliging doctor. This example is sufficient to show the evils of the system. The doctors are required to fill out numerous reports, are restricted to the use of medicine and, in every dispute, are the offending parties. In Germany the Krankhausen physicians get as much as four cents a call. It behooves us in America to be on our guard—to take an interest in the activities of the various agencies working toward the idea of State Medicine. We, as those most concerned, should be the ones who determine how the sick should be treated, and not the government in organized groups, as of lay people. A policy of "letting George do it" will surely bring disaster. We must present a united front to this enemy of our own self-respect, to the right treatment of the sick.

HOME

Now as I look out of the porthole, I can see the old fort at the height of Quebec. In a few hours we will reach Montreal. Here in Montreal I have made another pilgrimage, this time to the Osler Library where rest the ashes of that great physician. The librarian was most courteous and showed me the treasures in his keeping. There among the books he loved are his ashes. I promised myself to return one time and spend a day looking over that collection of rare old books.

Leaving Montreal, we drove to Toronto, where I visited the new Banting Institute, which has just been opened. Dr. Banting was most kind and detailed one of his assistants to show me the up-to-date research institute.

And now . . .
"Oh, it's home again and home again, America for me
I want a ship that's westward bound to plough the rolling sea,
To the blessed Land of Room Enough beyond the ocean bars
Where the air is full of sunshine and the flag is full of stars."
—"America for Me," by Van Dyke.

Dr. Stapleton appends the following list of addresses which would be of interest to the medical traveller in Europe:

London—Fellowship of Medicine, 1 Wimpole Street, London, W. C.; Paris—Bureau des Relations Medicales, Faculte de Medicine, 12 Rue de l'Ecole de Medicine, Paris, American Hospital, Dr. De Martel's Clinics. Ecole Medicine, Institut Pasteur; Berlin—American Medical Association of Berlin, Berlin W. W. 6, Luisenplatz 2-4 Kaiser Haus. The University of Berlin. The Charity Clinic. The Sauerbruch Clinic. Vienna (Wien)—American Medical Association of Vienna, Cafe Edison, Akerstrasse 9, Wien viii, Kursbureau of the Vienna Faculty of Medicine, Wien viii—Schlorselgasse 22. Italy—"Italian Inter University Institute." Rome—Via di Monte Iorpio 28. The purpose is culture courses for Italians and foreigners including courses in medicine. This is published in English and is free. Rome—Bastianilli clinic. Switzerland—Swiss National Tourist Office, Lausanne. "Switzerland and her schools."

FAMOUS MEN IN MEDICAL HISTORY

AN APPRECIATION OF SIR WILLIAM OSLER*

DON M. LE DUC, M.D.

"Grieve not that ye be not known by men,
Rather grieve that ye know not men."
—Confucius.

This teaching of Confucius represents the keystone of Sir William's life. William Osler, the youngest son in a family of nine, was born July 12, 1849, in a parsonage at Bond Head, Ontario, near the edge of a wilderness some fifty miles north of Toronto.

The Osler family had for years been strong in the traditions of the sea, and for the most part were a race of successful Cornish ship-owners and merchants. Why, in a family of this lineage, the clerical and scholastic influxes should make themselves apparent, is difficult to say, but we find in Osler's Uncle Edward a surgeon of real scientific and literary bent, possessing that keen scientific spirit of inquiry to be found later so firmly developed in the person of Sir William himself. From his father and Uncle Henry he received that simple religious faith which was to accompany him throughout the course of his most eventful life. As a direct inheritance from the sea, Sir William received the habit of thinking and acting clearly, the unusual faculty of seeing in a moment a passage through the rugged reefs of life.

One phase of Osler's early life at Bond Head should be emphasized—a phase of more than usual interest as concerns the evolution of two of the best marked qualities of his character—his tolerance and breadth of mind. Born and reared in a sternly Protestant household and community, and constantly imbued with the strongly antipapal doctrines of the district, to have preserved through these young impressionable years a mind unbiased, untouched by the bitterness of religious discussions about him, can only be considered as unusual to a degree.

Osler's early life was passed in the school of his native village, following which he attended school at Weston—Port Hope, a few miles west of Toronto, where he came under the influence of Rev. William Arthur Johnson, who knew Nature and how to get the boys interested in it. Johnson was a scholar and a naturalist of a type unknown in that part of the world; his life, his work, and his portrait indicate the source of many of the Osler habits of mind; he became at once the great influence of Sir William's early life, and from him were acquired the beginnings of that familiarity with the master-minds of earlier times, so apparent in the writings and conversations of the Osler of later days, as well as a remarkable acquaintance with natural history and its fascinating microscopical side. While at Weston an enthusiastic co-worker with Johnson in Natural Science, Dr. James Bovell, was destined to exert a more enduring and far-reaching influence on him.

The association with these earnestly working men had far-reaching but unlooked-for effects. The natural sciences, a diversion certainly in the lives of Johnson and Bovell, became an absorbing interest to Sir William, and the vision of a life in the church quietly faded, as his eyes and mind followed the workings of Nature through the old Johnson microscope. The age of eighteen found him debating the wisdom of the decision that had started him upon the road followed by Johnson and Bovell, and the suggestion of a friend that he was not meant for divinity crystallized his decision at once; whereupon he withdrew from Trinity University and entered the office of a doctor friend as assistant to begin those fifty-two years of uninterrupted productive activities which have so materially influenced the medicine of the world.

In 1870, at the age of twenty-one, after four years of intimate association with Johnson and Bovell, Osler left Toronto for Montreal, where this keen seeker for the best in men and methods realized that the hospital and teaching facilities were su-

*Read before the Victor Vaughan Society of the University of Michigan, April 29, 1930.

perior. He was graduated from the School of Medicine at McGill University in 1872 at the age of twenty-three.

We learn from a classmate "that, while a conscientious worker, Osler never passed for a 'grinder.' He was not particularly known for his devotion to textbooks, nor were his efforts entirely focused on success in examinations, but his main attention was

Sir William Osler

directed toward the postmortem room and to all hospital work within reach. He was beloved because of his social qualities, kindliness of disposition, and characteristic sense of good humor. While he did not graduate very high in his class, there is a note in the convocation program to the effect that he was awarded a special prize for his graduation thesis, because of the originality it displayed and the research it evinced."

Immediately following graduation Sir William carefully prepared himself for the teaching and practice of medicine by spending two years abroad under such men as Virchow, Bamberger, Fox, Jenner, Ringer, Traube, and others.

Upon his return to Montreal in 1874 he was appointed, at the early age of twenty-five, Professor of the Institutes of Medicine at McGill. His new duties included physiology, a series of lectures in pathology, and later, histology. He best expresses his situation at this period when he says, "My first appearance before the class filled me with tremulous uneasiness and an overwhelming sense of embarrassment. I shall never forget the nice consideration of my colleagues and the friendly greetings of the boys, which calmed my fluttering heart. One permanent impression abides—the awful task of the preparation of about one hundred lectures. After the ten to twelve with which I started had been exhausted, I was on the treadmill for the remainder of the season. False pride forbade the reading of the excellent lectures of my predecessor, Dr. Drake, which, with his wonted goodness of heart, he had offered. I reached January in an exhausted condition, but relief was at hand. One day the post brought a brand-new book on physiology by a well-known German professor, and it was remarkable with what rapidity my labors of the last half of the session were lightened. An extraordinary improvement in the lectures was noticed, the students benefited, and I gained rapidly in the facility with which I could quote the translated German."

Osler was soon appointed physician to the Smallpox Hospital, and, later, physician to the Montreal General Hospital, where, during the following eight years, 1,000 autopsies are ascribed to his credit. He, himself, has said that a man should come into internal medicine by one of three ways: physiological chemistry, physiology, or morbid anatomy. He was proficient in all three, especially pathology. Sir William's first brilliance as a clinical teacher began to take form. A man with such firm scientific foundation, a comprehensive knowledge of the subject presented by him, and his personal magnetism could not fail to command the respect and esteem of his students and colleagues.

In the summer of 1884, at the age of 35, Osler received a call from the University of Pennsylvania. He could not resist the temptation of pastures new in the fresh and narrower field of clinical medicine.

Accordingly he arrived in Philadelphia in the fall of 1884. His arrival created the keenest interest among all medical men, for he was, in a political sense, a "dark horse." Alfred Stille had resigned from the chair of

Practice of Medicine in the University of Pennsylvania. William Pepper II, then Professor of Clinical Medicine, was advanced to succeed him. The faculty offered the latter's chair to William Osler, who was well known in Philadelphia as a teacher and original investigator through his constant contributions to medical journals. Osler arrived at a difficult time, when medical education was undergoing most radical changes. The more progressive schools were then instituting the three year medical course. The University of Pennsylvania was second to adopt this change, which resulted in bitter controversy within the faculty.

The remarkable part of Osler's entrance was that, while the reports of his election raised waves of regret and indignation, his actual plunge into the pond at once had the effect of making its surface placid, and this without there being any manifest effort on his part to ingratiate himself with anyone or all of the factions. He was gracious to his elders, cordial to his contemporaries, encouraging to his juniors, and jovial almost to the point of frivolity with all, but the dominant factor that made his way successful with all hands was that, to use the student phrase, "he was up"—he knew his subject, and, even better, he knew how to teach what he knew.

So far as the students were concerned, there can be no doubt that their first impression was one of disappointment. No polished declamations with glowing word pictures of disease, such as they had listened to from Stille and Pepper, and for which the Philadelphia school was then famed, came from this swarthy person with drooping moustache and informal ways, who, instead of arriving in his carriage, jumped off from the street-car, carrying a small black satchel containing his lunch, and with a bundle of books and papers under his arm; who was more apt to pop in by the back door instead of by the main entrance; who wore a frock-coat, top hat, and a flowing red necktie, low shoes, and heavy worsted socks which gave him a foreign look; who, far from having the eloquence of his predecessor, was distinctly halting in speech; who always insisted on having actual examples of disease to illustrate his weekly lectures, and, as likely as not, sat on the edge of the table swinging his feet and twisting his ear instead of behaving like an orator—this, at least, was not the professor they had expected.

His first ward class, however, was an eye-opener, for the bedside instruction which he was accustomed to give was an undeveloped feature in the Philadelphia school. In it he fairly frolicked in enthusiastic delight, and in a few moments had every man intensely interested and avid for more.

It is difficult for us to realize today that at that time not only were there no laboratories, but the only microscope in the University Hospital was Osler's. Any attempt at original study or research was lacking, at least among the younger men. Clinical microscopy was, as yet, unknown. Osler's enthusiasm soon made an opening, and almost within a month of his arrival he and Dr. George Dock contributed from their own pockets to the equipment of a small clinical laboratory under a part of the hospital amphitheater, and there, amid surroundings so discouraging as to foil the novice, he produced an atmosphere so encouraging and helpful that young fellows trouped to his side. And so it may be said that Osler, on entering Philadelphia, carried the torch of original research in clinical medicine.

Osler did not favor a general practice for himself. Unlike his colleagues who were accustomed to hold afternoon office hours, he would betake himself with a group of students to spend the afternoon making postmortem examinations.

His circle of friends grew rapidly and was by no means limited to his own school. Osler had a particularly warm spot in his heart for men of an older generation, whom he always treated like contemporaries.

One year after coming to Philadelphia, Osler was chosen to deliver a series of lectures in London. He chose as his subject, "Malignant Endocarditis," on which he was able to speak not only with authority, but with considerable originality. These were destined to be among his greatest contributions of this period, and contained the first comprehensive account in English of this disease, and did much to bring it to the attention of clinicians.

It is of interest to note that while in London, an instrument maker perfected under Osler's directions the binaural stethoscope which was to replace the single tube stethoscope then in use. Osler was so careful to remain anonymous in this matter that his

part in the perfection of the present day instrument is not generally known.

Probably Osler's most important contribution to clinical medicine and clinical pathology while at Philadelphia was his study of malaria. He had originally been a skeptic as regards the protozoal nature of this disease and speaking "out of the fullness of his ignorance," as he later said, he had voiced his discredit of Laveran's findings, but, after his own carefully planned studies, he acknowledged his error and was the first in this country to confirm the latter's findings. By no means the least of his contributions were his active part in the birth of the Association of American Physicians, his monumental studies in anemia, pneumonia and typhoid fever. He also found sufficient time to act as editor and contributing editor of several medical periodicals.

In 1889, at the age of forty, Osler was invited to Baltimore to take charge of the medical clinic at Johns Hopkins Hospital. From this time on we find his greatest activity and usefulness in professional work.

Professor William H. Welch advises us that when Dr. Osler came to Baltimore the main intention of the faculty was that the hospital should form an integral part of the medical school and that opportunities should be afforded for higher clinical training. It accordingly seemed expedient that students should be made part of the hospital machinery, and to Osler is due the credit of working out the details of the scheme. This, indeed, represents his contribution to medical teaching in America.

The responsibility of organizing the clinic rested primarily on Osler's shoulders and, from what has gone before, the course he would pursue could have been foretold. From the first, he planned to make much of bedside and clinical teaching, with chief emphasis on practical instruction to small groups of students; and though this course could not be put into effect until the medical school should be opened at a later date, there was, meanwhile, plenty to do in preparation. Borrowing from his knowledge of German clinics, Osler immediately established long-term hospital residencies to take the place of the usual brief period of internship.

Osler made his home at the hospital for a period of two years and while organizing his medical clinic found time to complete the stupendous task of writing his "Principles and Practice of Medicine."

He had had ample experience writing for Pepper and other systems and encyclopedias of medicine. He knew what was required. He had persistently kept up with the current literature of medicine through the agency of journal clubs, and, by his constant reviews and editorials, he not only had come to possess an unusual familiarity with medical progress in all departments, but had acquired facility and style in the expression of his thoughts. His training in pathology had been such as to make possible, from first hand knowledge, vivid descriptions of the morbid anatomy of disease in a way unusual for a clinician.

The book required a little more than six months to complete and was a phenomenal success. Translations in French, German, Chinese and Spanish soon followed.

Dr. Robb, Kelly's resident in gynecology, who happened to be in possession of the largest and quietest suite in the hospital, relates the following: "He, Osler, asked me if I would loan him the use of my library for an hour or so in the mornings. I, of course, said, 'Yes, with great pleasure.' The first morning, he appeared with one book under his arm, accompanied by his stenographer. When the morning's work was over, he left the book on my library desk, wide open with a marker it in. The next morning he brought two with him, and so on for the next two weeks, so that the table and all the chairs and the sofa and the piano and even the floor were covered with books. As a consequence, I was never able to use the room for fully six months. Oftentimes right in the middle of his dictating, he would stop and rush into my other room and ask me to match quarters with him, or we would engage in the exchange of yarns. It was a great treat for me, and except when he would court inspiration by kicking my waste-basket about the room, I thoroughly enjoyed his visits." Dr. Robb fails to mention how he cured Dr. Osler of this habit by filling the basket with concealed bricks one day, with results that may well be imagined.

In 1890 Koch at Berlin made his startling and unfortunately premature announcement of a cure for tuberculosis. The medical world immediately over-estimated his claim, as, sadly, did innumerable victims of consumption. Osler made clinical tests with the newly discovered tuberculin and after a few months' trial issued a report some-

what favorable, but emphasizing that time alone would determine the efficacy of the new treatment.

While in Philadelphia, Osler had performed many autopsies at Blockley Hospital on cases of tuberculosis, so that when he began to attack this same problem in Baltimore, he had the experience obtained from over 1,000 autopsies, more than one-fourth of which had shown demonstrable tuberculous lesions.

Osler became very much impressed with the extent to which tuberculosis prevailed in the city of Baltimore, largely because of its crowded and unsanitary colored population. His crusade against tuberculosis was a crusade which demanded, above all else, the awakening of public opinion from the existing indifference and ignorance.

It was Edward L. Trudeau who convinced Osler of the value of fresh air and sunshine in the healing of tuberculosis. Osler first met Trudeau in Baltimore at a meeting of the Climatological Association in May, 1887, and heard him report his important experimental work on inoculated rabbits. Those confined in a damp, dark place soon died, while those allowed to run wild recovered or showed slight lesions. This work Dr. Osler described in the first edition of his text and added that it is the same with human tuberculosis. He stressed the importance of fresh air, rest, sunlight, and the maintenance of a maximum degree of nutrition, and praised the sanatorium treatment, especially as carried out by Trudeau.

In all, Osler published 62 separate treatises on tuberculosis. While in Montreal and Philadelphia he dealt chiefly with the pathological aspects of the disease. In Baltimore and Oxford his studies were largely clinical and social. He was most active in arousing the profession both to the need and means of preventing the spread of tuberculosis, particularly in children.

He was a leader in social measures for combating the disease, such as by the registration of cases, home visitation by medical students, nurses, and the like. His last word on the subject of tuberculosis to the general practitioner was in 1909 when he summarized the situation as follows, "The leadership of the battle against the scourge is in your hands. Much has been done, much remains to do. By early diagnosis and prompt systematic treatment of individual cases, by striving in every possible way to improve the social conditions of the poor, by joining actively in the work of the local and national anti-tuberculosis associations, you can help in the most important and the most helpful campaign ever undertaken by the profession."

Pneumonia, typhoid, and tuberculosis were the three outstanding diseases which he attacked—the three diseases, an intimate knowledge of which, he hammered incessantly into his students. He lived to see typhoid nearly abolished, tuberculosis under control, and pneumonia was to be his own undoing.

Dr. Osler's original contribution to the origin of the Rockefeller Institute of Medical Research is interesting. A few years after the publication of his textbook, a member of John D. Rockefeller's philanthropic staff succeeded, with the aid of a medical dictionary, in reading Osler's text from cover to cover. And in his own words, "When I laid down this book, I had begun to realize how woefully neglected in all civilized countries, and perhaps most of all in this country, had been the scientific study of medicine. . . . It became clear to me that medicine could hardly hope to become a science until it should be endowed, and qualified men could give themselves to uninterrupted study and investigation, on ample salary, entirely independent of practice. . . . Here was an opportunity for Mr. Rockefeller to become a pioneer. . . . I aimed to show him the actual condition of medicine in the United States and the world as disclosed by Dr. Osler's book."

Shortly after going to Baltimore, Dr. Osler married Mrs. Grace Gross of Philadelphia. Two sons were born, one in 1893 who died in infancy, and the second, Edward Revere Osler, in 1895. For the remainder of Osler's life this boy, the source of his greatest happiness—and whose loss was to be his greatest sorrow—was uppermost in his father's mind.

The newly organized medical school of Johns Hopkins was opened in 1893, and five years later Osler became Dean.

During the sixteen years which he spent at Baltimore, he was invited to teach at Jefferson, McGill, Harvard, Edinburgh, and Oxford. Numerous honorary degrees and

a Fellowship in the Royal Society of London were also bestowed upon him.

It had always been the hope of Dr. and Mrs. Osler that they might some day move to England so that Revere might receive his education there. So when he was offered the Regius Professorship of Medicine at Oxford in 1904, he accepted, but with no little regret at having to leave everything which was dear to him in America.

No transition could have been greater—from a noisy Baltimore to the quiet of an Oxford suburb.

Osler's Regius Professorship was one of five royal professorships (in Divinity, Civil Law, Medicine, Hebrew, and Greek) founded at Oxford by Henry VIII in 1546. The duties were much less strenuous, and gave him time to catch up on his many avocations, which were sadly neglected while at Baltimore.

With his election to the Medical Library Association Osler was soon launched upon a subject dear to his heart. His interest and activity in the organization and maintenance of medical library centers has been without parallel. "Books have been my delight," he says, "and from them I have received incalculable benefits. To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all." He emphasized the importance of books as a part of postgraduate study. There had been men whose only book was nature, but they were the exceptions. Wherever Osler went, whether by train, tram, or car, he usually carried with him a bundle of journals, interspersed with book catalogs or auction lists, and the number of these that he could go through in a short time with the unerring scent of the true collector was amazing. He had a rare nose for books, and could track to its lair anything that lurked in them.

One cannot escape from the feeling that Osler's greatest professional service was that of a propagandist of public measures. His beginnings in this direction, seen even in his youth-days in Montreal, were actively continued. He was constantly crusading against malaria and typhoid, not only in his own wards, but on public platforms. He energetically allied himself with the anti-tuberculosis movement in England.

Bitter antagonism of anti-vivisectionists and anti-vaccinationists followed him to England. The medical profession withstood their attacks through no little effort on his part in appealing directly to the public.

In 1911, at the coronation of King George V., Osler was made a baronet in recognition of his services to humanity.

The outbreak of the World War completely changed Oxford. Sir William was made a consultant to numerous military hospitals. During those trying years of the war, he was actively engaged in the organization and direction of hospitals, particularly Canadian and American. His home became a refuge for all those who knew, or had ever heard, of him.

When Revere left for the front Osler renewed his activity with vigor, this, no doubt, to compensate for the anxiety he felt. Revere had always been a close companion, and, of recent years, had keenly delighted his father in his love of books and literature. In August, 1917, Revere was cruelly wounded and died. The blow Osler bore with dignity and beauty, but it was a crushing one from which he never recovered, for it killed that exuberant vitality which had promised so many long years.

In the remaining months of his life he did manage to complete that stupendous catalog of his marvelous library.

Colds, with which he had always been troubled, became more frequent. In the summer of 1919, while in a severely run-down physical condition, he contracted broncho-pneumonia. He adequately appreciated his situation when he said to one friend, "Pneumonia at 70 is fatal," and wrote to another, "The harbor is almost reached, after a splendid voyage, with such companions all the way, and my boy awaiting me." The end came at the age of 70, December 29, 1919, from hemorrhage following drainage of an empyema and lung abscess.

The remains were cremated at London, and then conveyed to Montreal, there to be deposited in the midst of his books in the Medical College of his student days. McGill is now his shrine; and for generations to come, those who love medicine and its history will find their inspiration in that room, where, surrounded by the books he loved so well, repose the ashes of William Osler.

(To be continued)

PANORAMIC VIEW OF THE WOMAN'S AUXILIARY TO THE A. M. A.*

1. THE EASTERN DISTRICT

MRS. W. WAYNE BABCOCK

According to the Constitution of the National Auxiliary the first Vice President is automatically Chairman of organization, the three other Vice Presidents being organizers for their section of the country. Mrs. Southgate Leigh of Virginia, therefore, holds this Chairmanship, and the Eastern District is her particular responsibility. At her request a series of four articles is being prepared by her committee in order that each district may be cognizant of the progress of its own states as well as those of the other three sections. The individual state journals have been generous in extreme in the space they have allowed their auxiliaries and this additional courtesy of reporting the auxiliary situation in other states is deeply appreciated, for there is a growing desire to know "what others are doing."

New Hampshire stands alone as the only New England state 100 per cent organized and coöperating with the National Organization. Last year the state auxiliary had misgivings as to its necessity and usefulness but an urgent request from the medical society that the women remain organized dispelled all doubts. During the year following, Mrs. Hubbard, wife of the State President, visited every county, which encouraged and stimulated the growth of unit auxiliaries.

The New Jersey Auxiliary made pilgrimages to state institutions, set apart one meeting when the mothers of physicians were entertained, and sponsored various health meetings. The Essex County Auxiliary, assisted by the physicians, succeeded in establishing a course of health talks, in coöperation with the Y. W. C. A. of Newark, emphasizing especially prenatal care and information which would aid the mothers of babies and young children. Last year, Mrs. James Hunter, Jr., New Jersey's State President, visited every county, as did Mrs. Walter Jackson Freeman in Pennsylvania, during her presidency. One cannot help drawing the conclusion that personal contacts are necessary for county development and success.

Virginia is active in spots. The doctors encourage the auxiliaries as they believe that through them education with regard to the menace of state medicine can be spread.

Ohio for several years has been sending representatives from a few organized counties to the National meetings but as yet there is no state organization. As our friend and advisor, Dr. Upham, lives in Ohio, it is felt that he will advise the National Auxiliary when the auspicious time arrives for the establishment of a State Auxiliary.

The District of Columbia seems so completely diverted with Washington affairs that the auxiliary which so capably cared for the A. M. A. meetings some years back seems to have gone into retirement.

Delaware, in a breathless, better-late-than-never manner, has completely caught up and is most interested and active and has entered upon serious work by assisting the men of the profession in establishing a medical library in Wilmington. They will coöperate with Philadelphia at the time of A. M. A. and the eastern section will introduce them with pride to the National Organization. West Virginia is up and doing and you may expect still better things from that state this year.

Maine, Massachusetts, Rhode Island, Vermont and Maryland have reported the interest of individuals but no organized effort. Queries from different localities in New York as to why there is no auxiliary have been answered with the statement that several years ago the House of Delegates voted unanimously in favor of the auxiliary and authorized its organization. The same year, Connecticut voted favorably but no definite steps have been taken.

Pennsylvania has surely discovered the rhythm in which its auxiliary work is best done, for concrete accomplishments have been turned out regularly, year by year. Of the three thousand dollars contributed last year to the Medical Benevolence Fund more than two-thirds was contributed by the Aux-

*This is the first of a series of four articles by organizing chairmen of the Woman's Auxiliary of the American Medical Association.

iliary. A definite trend toward educational meetings is felt all over the state and socially it is hoped that the carefully formed Philadelphia plans for the next meeting will bring honor and glory to the Keystone State. Not only are the adult members of the auxiliary meeting, but a group of the most charming and good-looking daughters of doctors are working together in order that they may know each other and work in unison for the comfort and pleasure of the A. M. A. guests when they come to Philadelphia in May. Verily, who can question the wisdom of the auxiliary, when it brings about so much willing work in behalf of the medical men of the country?

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Commissioner
LANSING, MICHIGAN

COMMUNICABLE DISEASE REVIEW FOR 1930

As a whole, the year 1930 was very satisfactory from the standpoint of communicable disease. There were reported 107,883 cases as compared with 108,765 for the year 1929, a decrease of 882 cases. When we consider, however, that measles, which is a disease that runs in cycles, showed an increase of over 10,000 cases, it will be seen that all other diseases must have been considerably lower to have offset this increase in the total.

Perhaps the most satisfactory showing was made in diphtheria. Those persons who have been familiar with the efforts in the department during the last twelve months must know that a great deal of emphasis has been placed on the control of diphtheria and to show a decrease of almost one-third is certainly satisfactory. There were 3,206 cases of diphtheria reported, as compared with 4,618 in 1929.

Scarlet fever likewise showed a very satisfactory decline of about 20 per cent, there being reported 11,174 cases as compared with 14,245 in 1929.

Whooping cough showed a decrease and also pneumonia, the decrease in pneumonia being equivalent to almost 25 per cent. This is probably due to the fact that at the end of 1928 and in the early part of 1929 there was a marked epidemic of influenza, which always results in an increase in pneumonia cases and deaths. We were so fortunate as to escape such an epidemic during 1930.

Meningitis, which appeared in epidemic form in several parts of the state during 1929, while still high in 1930, recorded only about one-half the number of cases reported in 1929.

Poliomyelitis showed only a slight increase, there being 208 cases in 1930 and 180 in 1929. Chickenpox and mumps were not significant, about the same number of chickenpox cases being reported each year, and a slight increase being recorded in mumps.

There were reported 94 diphtheria carriers, as compared with 88 in 1929. Two cases of dysentery were reported. There were 601 cases of erysipelas, as compared with 937 the preceding year.

Lethargic encephalitis, which has created a good deal of worry in some of the European countries, and which reported 71 cases in 1929, was reduced to 48 cases in 1930. There were two cases of leprosy reported, none in 1929.

There has been a tendency toward an increase in the number of cases of malaria. For many years Michigan had practically none reported, except an occasional imported case. During 1929, however, there were 44 cases reported, which rose to 57 in 1930.

There were seven cases of pellagra reported; three more than in 1929. Rabies fell considerably from the preceding year, there being only five cases reported in 1930, or twelve less than in 1929. Septic sore throat, however, showed an increase of 90 cases during the year. Eleven cases of tetanus were reported, one less than in 1929; and five cases of trachoma, two less than in 1929. There was one case of trichinosis. No cases of tularemia were reported, and but one case was reported in 1929.

Undulant fever, however, showed an increase of from 4 to 14 cases between the two years. Vincent's angina (trench mouth) showed 133 cases reported, as compared with 177 in 1929. There were reported 5,128 cases of tuberculosis as com-

pared with 6,248 in 1929. The reporting of tuberculosis is notoriously incomplete and it would be very unwise to attempt to draw any conclusions from this difference in reports.

A slight decrease was noted in each of the venereal diseases. There were 68 less in syphilis, 1,107 less in gonorrhea, and 170 less in chancroid. While these two years are comparable in venereal disease reports, they should not be compared with years farther back, because of the changed system of reporting, which provides now that only those cases which are in an infectious state shall be reported, as compared with the previous requirement of reporting of all cases.

A complete list of all case reports received, together with the 1929 figures, will be found in the accompanying table.

CASES OF COMMUNICABLE DISEASE REPORTED
1930 AND 1929

Disease	*1930*	*1929*	*Increase*	*Decrease*
Diphtheria	3,206	4,618		1,412
Scarlet Fever	11,174	14,245		3,071
Smallpox	2,375	2,410		35
Typhoid Fever	504	310	194	
Whooping Cough	7,937	9,340		1,403
Measles	28,129	18,040	10,089	
Pneumonia	5,555	7,458		1,903
Meningitis	901	1,864		963
Poliomyelitis	208	180	28	
Chickenpox	10,809	10,835		26
Mumps	5,370	4,994	376	
Diphtheria Carrier	94	88	6	
Dysentery	2	1	1	
Erysipelas	601	937		336
Lethargic Encephalitis	48	71		23
Leprosy	2	..	2	
Malaria	57	44	13	
Mycoses	2	2		
Paratyphoid Fever	2	..	2	
Pellagra	7	4	3	
Rabies	5	17		12
Septic Sore Throat	327	237	90	
Skin Diseases	21	21		
Tetanus	11	12		1
Trachoma	5	7		2
Trichinosis	1	..	1	
Tularemia	..	1		1
Undulant Fever	14	4	10	
Vincent's Angina	133	177		44
Tuberculosis (all forms)	5,128	6,248		1,120
Syphilis	16,538	16,606		68
Gonorrhea	8,554	9,661		1,107
Chancroid	163	333		170
	107,883	108,765		882

TENTH ANNUAL PUBLIC HEALTH CONFERENCE

A record-breaking number of health officers, public health nurses, physicians, dentists and interested laymen attended the Tenth Annual Public Health Conference held in Lansing on January 7, 8 and 9, 1931, under the direction of the Michigan Department of Health and the Michigan Public Health Association. The registration of members was 403, and there were many unregistered guests. Every section of Michigan was represented, including the Upper Peninsula.

The opening session on county health department practice drew a crowd that packed the Hotel Olds ballroom, where the conference was held. Dr. W. F. Draper, Assistant Surgeon General of the United States Public Health Service, read the first paper, setting forth "The Fundamental Principles of County Health Department Practice." Dr. Draper emphasized the fact that rural health service can only be obtained through full-time health departments with adequate and properly trained personnel. To be successful, such a health department must be integrated with the local government and the county is the logical unit of local government through which it should function. Where a county is too small to carry the financial burden, a combination of counties into a district is the solution.

The health officer should be beyond the reach of partisan politics, Dr. Draper emphasized. His term of office should be long enough and secure enough to assure good work.

Following Dr. Draper, came Michigan's county and district health officers reporting on the plan of organization and activities of their departments. Genesee County was represented by Dr. Winchester, speaking for Dr. Leslie Lambert, Health Officer of the Genesee County Health Department. The Genesee County Unit is concentrating upon school health work and control of communicable diseases. Investigation of illness in indigent cases is done by a representative of the health department, and a close check is maintained upon such expenditures. This is a service which is especially appreciated by the board of supervisors.

Dr. J. D. Brook, newly appointed commissioner of the newly organized Kent County Health Department, reported briefly, stating that the first duty of his department would be immunization against diphtheria. The personnel of the Kent County Depart-

ment is made up of the health officer, five public health nurses and a clerk.

The work of the Midland County Health Department was discussed by Dr. Arthur W. Newitt, Health Officer, with equal brevity, since he had been in office only a week. The Midland Department is operating on a budget of $12,000 a year, made up of joint subsidies. Prenatal work, infant hygiene and school hygiene are being stressed.

Dr. J. D. Monroe, Commissioner of the Oakland County Health Department, reported on the longest term of service, since the Oakland unit was the first to be organized. The department serves a population of 165,000 exclusive of Pontiac, has a staff of 18 and a budget of $75,000, including $5,000 for work with crippled children. A system of furnishing part-time nursing service to schools on a contract basis has proved satisfactory, the schools paying a per capita charge of $1.10. In Oakland county the county hospitals are under the supervision of the health department. Laboratory service is worked out on a bus route and messenger service plan.

The activities of Wexford County's Health Department were presented by Dr. S. C. Moore, health officer. Dr. Moore described the Wexford plan of handling the care of indigent sick through the County Medical Society, and emphasized the necessity for close coöperation between health department and physicians, if the work of the department is to be thoroughly successful.

Dr. R. B. Howard, Commissioner of Consolidated District Health Department No. 1, reported that that unit was focusing its attention upon school health. A total of 1,500 school children have been vaccinated and 400 given the Schick test. Examination of 1,700 school children revealed over 4,000 defects. In two of the counties loan funds have been established to care for corrections among indigent children. A dentist is at work in the four counties, spending three months in each county. Dental work, also, is confined to indigent children. It was Dr. Howard's opinion that the dental work in his district had done much in selling the idea of public health.

Dr. Frederick T. Zieske, director of Consolidated District Health Department No. 2, reported his school children pretty well vaccinated. The difficulty of covering large areas in communicable disease control was stressed by Dr. Zieske, as he explained his plan of utilizing township supervisors in carrying on control measures. Some progress was reported in milk supervision, the department's sanitary inspector having visited every milk producer.

Dr. Carleton Dean and Dr. Stanley A. Stealy reported on the plan of organization and the contemplated activities of Consolidated District Health Departments Nos. 3 and 4. The units have just been organized.

"From a legal point of view, public health law owes its origin and effectiveness to the inherent right of sovereignty known as police power," said James E. Bauman, Assistant Director of the Ohio Department of Health and a member of the Ohio Bar, speaking on "The Fundamentals of Public Health Law." "Police power has been variously defined, but for our purpose the following definition is sufficient: 'Police power is that inherent sovereignty which the government exercises whenever regulations are demanded by public policy for the benefit of society at large in order to guard its morals, safety, health, order and the like, in accordance with the needs of civilization.'

"Police powers have their origin in the law of necessity. Before the existence of constitutions or statutory laws it was a well-settled principle of common law that in cases of actual necessity, as in preventing the spread of fire, the ravages of pestilence, or any other great calamity, the private property of the individual might be lawfully taken, used or destroyed for the relief, protection or safety of the many. This is recognized as 'The law of over-ruling necessity.'

" 'The measure of the police power of the state is the measure of the public need, limited only by the state and federal constitutions. Public health is one of the most vital subjects for the exercise of that power. Primarily, the state legislature is the judge of that need, and in the exercise of that judgment must be given wide discretion. The legislative judgment in this behalf will not be nullified except when it clearly appears that there has been a gross abuse of such discretion, in undoubted violation of some state or federal constitutional provision.' "

Dr. Charles F. Wilinsky, Deputy Commissioner of Health of Boston, discussing

"A Community Health Program for the Infant and Preschool Child," said in part: "How can we remain content that everything is being done which should be done when we lose almost 200,000 babies annually, of which group over 50 per cent die from preventable causes? How can we be satisfied with a marked reduction of deaths from gastric diseases in children with so many dying from injuries at birth and prematurity? While we are in a measure appreciative of the value and significance of prenatal service, yet not enough expectant mothers avail themselves of the very important benefits which result from the proper hygiene of pregnancy. Any attempt to evaluate and think in terms of a satisfactory child hygiene program requires that proper emphasis be placed on adequte prenatal service. It is impossible to think in terms of adequate protection for the newborn without safeguarding pregnancy and labor. The health of the expectant mother, the toxemias of pregnancy, prematurities, and injuries at birth—all factors which markedly affect the life and future health of the new-born—are in turn influenced materially by prenatal service, and any program which has for its objective the prevention of the above conditions must inevitably result in the saving of maternal and child life."

"The Control of Dental Caries," a report of the investigations conducted by Charles L. Drain, D.D.S., and Julian D. Boyd, M.D., of the State University of Iowa, read by Dr. Drain, was of especial interest to the conference members.

"It has been shown," said Dr. Drain, "that dietary deficiencies can cause dental caries; that correction of a deficient diet will arrest and control dental caries, and that if diet is adequate for general health, it will also be adequate for the control of caries. Such a diet should agree with the following points:

"1. Should contain sufficient protein to insure proper growth.

"2. Should contain enough calories for full activity.

"3. The residual ash should be neutral.

"4. Should contain in abundant amounts Vitamins A, B, C, D, E, and F.

"5. Should contain in abundance the essential minerals, especially calcium, phosphorus and iron.

"6. Should be composed of foods readily obtainable in reasonable amounts and at reasonable prices.

"7. Should not be a 'Fad' diet.

"8. Should not require mineral accessories other than foodstuffs."

OF GENERAL MEDICAL AND SURGICAL INTEREST

PLAN FIGHT TO FINISH ON CANCER

Optimism and determination were the guiding spirits which pervaded the cancer symposium held in Washington under the auspices of the National Institute of Health.

Seven of the leaders in the fight against the disease which is the second greatest killer of mankind described their part in the combat and their war plans. All of them admitted the strength and power of the enemy. But they all were determined to make this a fight to the finish. Not even the statement by Dr. J. W. Schereschewsky of the U. S. Public Health Service, that cancer has undeniably increased, dampened the hopeful, fighting spirit of these men. "The conclusion was reached that in the 21-year period from 1900 to 1920, about two-thirds of the increase observed in the cancer death-rate of persons 40 years and over was due to an actual increase in the mortality from the disease," he said.

"We may venture to hope that the cancer death-rate will not continue to grow indefinitey," he continued. All physical, chemical and biological processes tend to a state of equilibrium. Even without the discovery of preventive measures, the cancer death-rate will sooner or later become stabilized, he ventured to predict.

"The fact of the increase in the cancer death-rate, however, should serve as a spur to stimulate research and to justify its extension," said Dr. Schereschewsky. He described the work in his laboratory at Harvard Medical School, where the effect of high-frequency electricity on tumors is being studied. Transplantable tumors in laboratory animals dry up and disappear when placed in the field of these currents, which are similar to the short waves of radio. However, deep-seated tumors are not so easily influenced by the rays. The amount necessary to affect them is apt at the same time to damage neighboring healthy tissue.

Chemists and pharmacologists are also engaged in the fight on cancer. At the National Institute of Health, Dr. Carl Voegtlin and his associates are studying the chemistry of the cancer cell, hoping to learn from this the reason for the tumor's destructive action on surrounding normal tissue and its infiltrating growth.

In Baltimore, Dr. Geschickter of the Surgical Pathological Laboratory of the Johns Hopkins Medical School has also been working with chemicals, trying to produce a stain which will show up the cancer cells in a microscopic section of tissue. He described a new method of staining such tissue, but stated that this is not a specific stain for cancer diagnosis. That remains to be discovered.

Approaching the problem from another angle, George O. Gey of the Carnegie Institution of Washington department of embryology has been "culturing" or growing human cancer cells in his laboratory. This has been attempted a number of times, but the difficulties are great. Mr. Gey has succeeded in cultivating certain types of cancer cells,

the sarcoma cells, for many generations. It appears that he will be able to carry this strain on indefinitely. Moving pictures of these and other cancer cells were shown by Dr. Warren H. Lewis in whose laboratory Mr. Gey has carried on his work.—*Science Service.*

1932 MAY BE NEXT FLU EPIDEMIC YEAR

A slight increase in influenza this year over last year, with no big outbreak until 1932, is the probable forecast for this disease, based on a survey of the past ten years made by the Metropolitan Life Insurance Company.

The statisticians of the company point out that because ten years is not a very long time in the history of the disease, and because the great pandemic of 1918 does not exactly fit into the picture of a three-year cycle, no definite prediction can be made.

"From such a short period it would be hazardous to draw any sweeping conclusions," they stated. However, their records show that every three years since 1920 has seen a big increase in the cases of influenza. The big years, 1920, 1923, 1926, 1929, were followed by two years of comparatively few cases of the disease.

The seasonal peaks in all the years correspond closely in the company's records. In the second year after an outbreak, the seasonal peak is a little higher than in the first. Such a seasonal increase during the next few months would indicate that the disease is following its usual cycle. So far, no increase in cases of influenza has been reported to the U. S. Public Health Service at Washington.

While the 1918 pandemic does not fit into the three-year cycle, it had many unusual features, which indicate that it may stand alone as an exception to the rule. For instance it did not follow the usual seasonal course, but broke out suddenly in September and continued high for about 8 months. The three-year outbreaks, on the contrary, start in about the first of the year and reach their peak in February or March.

"If the general character of the triplets of annual waves observed in the past ten years should continue to show itself in the future, then the year 1930 with its low death rate from influenza would be typical in its position immediately following the high crest of 1929," the company's report stated. "It would be followed in 1931 by a wave of somewhat higher but still moderate crest; and the year 1932 would then follow with another maximum death rate, not to equalled again for two years thereafter."

Officials of the U. S. Public Health Service do not think the occurrence of influenza epidemics can be described by the term cycle, and they likewise state that no prediction as to the time of the next epidemic can be safely made.

Their records shows epidemics in the years 1920, 1922, 1923, 1926, 1928, and 1929. These records are compiled from reports of state health officers and include the general population of the country. The insurance company's records, based on illness among their policy holders, are limited to the industrial population. This probably explains the difference in naming epidemic years.—*Science Service.*

ADVISES PREVENTION OF FEEBLE-MINDEDNESS

Methods for the prevention of feeblemindedness can and must be instituted, according to Dr. O. P. Kimball of Cleveland, speaking before a recent meeting of the Michigan State Department of Health on the physical causes of mental deficiency. Endemic goiter causes at least 10 per cent of the feeblemindedness in Michigan, Dr. Kimball said, and the methods for the prevention of goiter already being carried out will entirely eliminate feeblemindedness due to this cause. He also advocated the prevention of malnutrition in children, the prevention and cure of chronic diseases, and social methods for the control of the feebleminded.

Dr. Kimball's conclusions are based on a study of 5,000 feebleminded children in the Detroit public schools and 1,500 children in the Cleveland public schools.

Other glandular disturbances besides goiter were found in the feebleminded studied, according to Dr. Kimball, but goiter was the only condition which was found to be directly responsible for the mental deficiency. His studies, he said, did not confirm the belief held by some physicians that the pituitary gland, which regulates body growth, also had an effect on the development of the intellect. Children who were mentally deficient, and who showed a decrease in pituitary activity, were given extract from the pituitary gland, but the results were not encouraging. Instead of showing an improvement, there was almost invariably a slowing down of the student's ability to handle his school work.

Family heritage plays a very large part in mental deficiency, Dr. Kimball stated. At least 80 per cent of the cases studied showed characteristics similar to those seen in other members of the family or in close relatives.

Malnutrition, Dr. Kimball said, has an indirect effect on the feebleminded. Even normal children show a mental retardation when undernourished. Approximately one-third of the children studied showed some marks of being poorly nourished in their infancy, either in the form of rickets or other abnormalities. Any method for the prevention of feeblemindedness should, he stated, provide for proper nourishment for the child.

Chronic diseases were present in 5 per cent of the cases studied, according to Dr. Kimball's report. This, he said, was probably no greater than would be present among children mentally normal. Nevertheless, any program of prevention, he said, should provide for the eradication of these diseases.—*Science Service.*

ACUTE BENIGN INFECTIOUS MYELITIS

Attention is called by Irving J. Sands, Brooklyn (*Journal A. M. A.*, Jan. 3, 1931), to a recoverable type of myelitis. Following infection of the upper respiratory channels there occurs, in young persons, paralysis of the lower extremities with loss of deep tendon reflexes, loss of abdominal reflexes, retention of urine, and subjective as well as objective sensory disorders segmental in distribution. There is slight leukocytosis. The spinal fluid shows an increase in protein and relatively little cellular reaction. Recovery is apparently rapid and complete. A relationship between this disease and epidemic encephalitis is suggested.

TREATMENT OF DEMENTIA PARALYTICA WITH HYPERPYREXIA PRODUCED BY DIATHERMY

Clarence A. Neymann and S. L. Osborne, Chicago (*Journal A. M. A.*, Jan. 3, 1931), describe a method for producing hyperpyrexia in man. Twenty-five patients with dementia paralytica have been trated; 66 per cent went into a clinical remission; 8 per cent were markedly improved. No serious harm resulted to these patients from the treatment and there were no deaths in this series directly or indirectly ascribable to the treatment. Certain physiologic phenomena associated with hyperpyrexia produced by diathremy are described.

THE JOURNAL

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MARCH, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

CARE OF THE INDIGENT SICK

The matter of the care of indigents of small earning power who are accustomed to attend free clinics in cases of illness has been the subject of discussion in Wayne County and a plan has been proposed whereby those who are employed in the various industries contribute a small sum each month through their employers as a fund to provide for their medical care in case of illness, confining or partial. Such persons may consult any physician, who in turn presents his bill for payment out of the fund so raised according to the plan proposed. The initiative we understand comes from the physicians themselves and not from employers or employees. This we understand has no relation whatever to the matter of workingmen's compensation now in force.

It is pointed out that many families have no expensive illness over a number of years, whereas an occasional family will be so afflicted that not only are any savings wiped out but the morale of the home is seriously affected. The object of some scheme of insurance is twofold: to prevent pauperizing the people concerned by causing them to get the free clinic habit and thereby rendering them objects of charity, and, secondly, to remunerate physicians upon whose shoulders an inordinate amount of the work of ministering to such a class falls. The matter of health insurance is long beyond the experimental stage, especially in the form of sick and accident protection. The more cautious and provident portion of the population make provision for unforeseen interruption of work by illness. To make the custom as nearly universal as possible has everything in its favor.

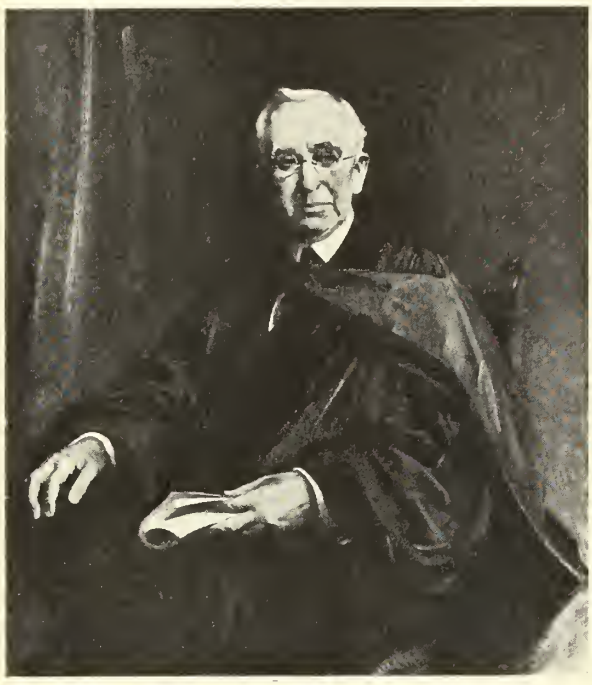
In the January number of this Journal was discussed editorially a plan which had been in vogue among various counties in Iowa whereby the county medical society undertook for a sum paid out of public taxation to look after the health of the indigent. The plan appeared to work successfully as tried out by about a dozen rural counties.

Any plan (we are not here concerned with the details) emanating from the medical profession for the care of the indigent sick on a remunerative basis, if adopted at all, should be only with the approval of the county society and should be controlled solely by the county society.

DR. PETERSON HONORED

The resignation of Dr. Reuben Peterson from the medical faculty of the University of Michigan to become effective in June next is occasion for evaluating the career of a great teacher. Dr. Peterson graduated from Harvard University, receiving the B.A. degree in 1885 and in 1889 the degree of M.D. After twelve years of experience in private practice and as professor of gynecology at the Post-Graduate Medical School and Assistant Professor of obstetrics and gynecology at the Rush Medical College, Dr. Peterson was appointed Professor of obstetrics and gynecology and also Bates Professor of diseases of women and chil-

dren at the University of Michigan in 1901. He has seen three decades of continuous service at the University of Michigan. His popularity and worth as teacher and physician in his chosen specialty have not been confined to academic halls. He has been equally active in the interests of the



Dr. Reuben Peterson

profession of the State, which interest and activity have been recognized in his election as President of the Michigan State Medical Society.

During the world war Dr. Peterson gave up his position temporarily to become major in the medical corps of the United States army, a position he filled with distinction.

Forty-five of Dr. Peterson's former assistants are still alive and active and all carry on the work so well performed by their chief. The influence of a great teacher can never be over-estimated. Not only have we the men who served formerly with Dr. Peterson but the large number who, though not assistants, received their training under him. Dr. Peterson has always encouraged those associated with him as well as his students to record the results of their study and these papers have gone into the make-up of this Journal to a very large extent, for practically every year from one to several contributed articles have appeared from the pens of his assistants.

On the 15th of January, Dr. Peterson was honored by his friends and co-workers, who presented his painted portrait to the University. The occasion was characterized by commendatory addresses of different phases of his career. Dr. Peterson's resignation takes place while he is in the best of health and in a position to pursue his private practice with unabated vigor. This Journal joins in extending congratulations to the doctor on the fulfillment of his long and honorable career as teacher and also the hope that, relieved of his professional duties, he will give the profession of his ripened experience through the columns of this Journal.

WHY NEWTON?

A correspondent writes for information concerning Sir Isaac Newton. Why is he considered such an important person? He has been mentioned much recently due to the visit of Einstein to America and the fact that within recent years the theories of the latter have been presumed to transcend the Newtonian physics. This is not an avowedly medical topic; yet indirectly a short answer to the question might have at least a relative bearing on medicine. Newton's name has been commonly associated with the law of gravitation. He did a great deal more, however, than philosophize on the earthward course of a falling apple.

To appreciate Newton's services to science it is necessary to take stock of scientific advancement up to the so-called Newtonian epoch, that is to about 1660. In astronomy the work of Galileo and of Kepler were united with that of Newton in a great physical synthesis. Both Gilbert* and Harvey had employed the experimental method empirically, which perhaps accounts for the fact that it remained for later generations to carry forward the work of both. Science of the time was still under the spell of scholasticism which looked to Aristotle as the great authority. During the seventeeth century the idea of ether, an imponderable entity pervading all space, was revived from an ancient Greek concept. Gilbert used it to explain magnetic attraction and Harvey employed it to explain the process of convey-

*William Gilbert (1544-1600) was one of the most distinguished scientists during the reign of Elizabeth. He practised as a physician in London, where he was physician to the Queen. He was one of the pioneers in the study of magnetism. His great work was the De Magnete.

ing heat from the sun to the heart and blood of living animals.

The idea of ether was still confused with Galen's concept of ethereal or psychic spirits used by the mystic school to explain the nature of being. The modern distinction between matter and spirit was not clear during the seventeenth century. The confusion of ideas which prevailed may be illustrated by Gilbert, who supposed that "magnetic forces were due to effluvia which draw bodies to the magnet, and that gravity is of the same nature as magnetic forces, each possessing a 'soul' which emanates through space and draws all things into it." There persisted many survivals of medievalism. To such an extent did it prevail that Boyle in his researches in chemistry found himself continually confronted with scholastic ideas of chemistry.

Isaac Newton (1642-1727) was the delicate and only child of a small farmer. He, however, had the advantage of a course at Cambridge University, where he eventually became a fellow in physics. He was, moreover, a true genius. The *Principia* was his great work. He established the binomial theorem and made many advances in other branches of mathematics. One writer says, "Newton's work on optics, even if it stood alone, would have placed him in the front rank of men of science." This includes his theories of light and his studies on the solar spectrum. It would require a good-sized volume to go into detail in regard to Newton's researches in this particular field and many volumes to contain their appropriation by many of the applied sciences. The contribution to medical science will at once become evident in physical therapy, X-rays and photography. The corpuscular theory of light, proclaimed by Newton and for a long time supplanted by the wave theory of Huygens, has been recently confirmed in the discovery of swiftly moving corpuscles of electrons in cathode rays in which it has been demonstrated that "the structure of light is essentially atomic."

Of equal importance to his great discoveries in the realm of physics is the incidental effect his work has had in the matter of synthesizing scientific knowledge. He clarified what was a hodge-podge of medievalism or scholasticism and science. He believed only on evidence. Where a "cause" was not demonstrable he refused to invent one. "Hitherto," wrote he in the *Principia,* "I have not been able to discover the cause and properties of gravity from phenomena, and I frame no hypotheses."

And yet Newton is mentioned in history only as "Master of the Mint," a position he held during the later years of his life.

THE AMERICAN MEDICAL ASSOCIATION

There is no other organization which renders greater service to its members and indirectly to the nation in general than the American Medical Association. A great deal might be said in regard to the selection and standardization of medicinal agents, to raising the standards of medical education, to the efforts towards making medicine less empirical and more scientific, but we wish here to emphasize two or three other endeavors which the national organization is carrying out so well.

The Americal Medical Association Bulletin is a monthly visitor to the offices of the members. This Bulletin is not large, yet it contains a vast amount of matter on what might aptly be called the social and economic phases of medicine. While the Journal and several other special publications of the A. M. A. are concerned with the scientific aspects of medicine, the Bulletin deals with no less important subjects concerning which the practising physician cannot afford to be ignorant.

And then comes *Hygeia.* This is a sane, well-gotten-up health magazine for the layman. It is attractive in appearance without being sensational; informing in the subjects it contains without becoming morbid. As every doctor knows, it is much more satisfactory to be the health advisor, or the attendant in cases of illness, to intelligent people than to the ignorant. *Hygeia* on the waiting room table or, better still, in the homes of his patients will prove one of the most satisfactory factors in the matter of health education that has been yet devised.

THE TERCENTENARY OF QUININE

It is three hundred years since the discovery of quinine or, perhaps more accurately, the discovery of the therapeutic uses of cinchona bark, which would date its first use in 1631. It was not, however, until 1638

that the peculiar bark received the name by which it has since become known. It was in this latter year the Countess of Cinchon, wife of the governor of Peru, was cured of an attack of fever by its administration. The medicine was recommended by the corregidor of Loxa, who was himself cured of a similar complaint in 1630 or 1631.

Knowledge of the virtues of this bark was disseminated throughout western Europe by the Jesuits; hence the name Jesuits' bark. It is also related that Jesuits' bark received the name from the incident of a Jesuit missionary to South America who was cured of an attack of fever from an infusion of the bark administered by a South American Indian. It is reasonable to presume that the febrile condition in either case was due to the plasmodium malariæ. Efforts for the cultivation of the cinchona tree have been made in many places. Indigenous to Peru, it has been found to grow well in Ceylon, but the greatest quantity of the bark now used comes from Java, where the tree has also been found to thrive. The yellow bark of the Java-grown cinchona happens to be richer in the alkaloid quinine than that of any other region. It is the salts of this alkaloid, particularly the sulphate, that are most widely used as a specific in the *cure* of malaria; for this is one of the few diseases for which we have a *cure*.

While the use of quinine is somewhat limited in temperate climates, its importance cannot be overestimated. Probably no other drug has been of greater service to mankind. Its use has so completely controlled malaria that the white races in particular have been able to live in climates where without it life would be impossible. It has been said that the decline and fall of the Roman Empire was due to the mosquito while the adumbration of Greece was due to the tsetse fly. How much truth there is in these contentions, we are unable to say. The drainage of the Pontine marshes in vicinity of Rome and the destruction of the anopheles mosquito have made human existence more endurable in Rome as the same sanitary measures have made life more pleasant in Michigan.

Thanks to the discovery of three centuries ago we have a *cure* for a disease which was the cause of so much discomfort to the pioneer of almost every land.

IF NOT CHARITY WHAT IS IT?

During these times of financial depression which it is hoped will be of short duration it is not amiss to take mental stock of just what we as a profession contribute to society at large. There is little need of panicky apprehension for the future. The future lies not in our stars but in ourselves, so it behooves us to go forward with as much wisdom as we can command. Our first duty to society consists in rendering intelligent and efficient service, which means constant study; this alone will win out in the face of competition with irregulars and with inefficiency.

True, physicians will continue to give a great deal for which no remuneration will be forthcoming. That will be plain charity whether it be service rendered in free clinics or in private practice, either in free service or in splitting the charge to the patient. The only commodity a physician has to offer is his service, on which he places a definite value, his fee. If he for any reason foregoes this definite amount in whole or in part that is virtually so much contributed to charity. We say *virtually* advisedly inasmuch as such charity cannot be credited in an income tax return. Similar service when rendered by members of the legal profession is paid for out of public taxation. An indigent person charged with crime is provided with an attorney to defend him who is remunerated by the state (using the term to designate organized government whether a county or city). Why is not therefore any service rendered by a physician charity for which he does not receive his regular fee? This does not include bad accounts which as in a business are charged off to loss. The claim that doctors should attend free clinics to keep in practice is just about as sane and logical as to urge that the devotees of any other calling, law, plumbing, carpentry or what not, should render service free in order to keep up their practice. How many times are physicians in clinics men who have already had years of experience!

Another fallacy in the minds of the laity that should be combated is the insinuation that doctors charge and collect big fees from the so-called well-to-do to make up for their free work to the poor. No doctor has any right to charge an extraordinary fee to a person of means to make up for his charity work if such is his sole reason for doing so.

There are reasons, however, and very valid ones, why a wealthy person should pay more for medical service or for a surgical operation than a person in humble financial circumstances. The patient may and usually does demand more attention. An adverse result reflects to a greater degree on the reputation of the surgeon or medical attendant than if the patient were of the humbler walks of life. And perhaps the best justification for the larger fee is the fact that the time of a person prominent in commercial or industrial life is more valuable than that of an employee. In other words restoration to health, while no more important than it is to the humble worker, is worth more in dollars to the industrialist and to the higher salaried man. This is the viewpoint of the vast number of physicians who vary their fees and it is the only basis on which extraordinary fees should be made.

AN OPTIMIST

It is rather pleasant to hear a note of optimism these days even though the prediction applies to times a century hence.

> We may not live to see the day
> But the earth shall glisten in the ray
> Of the good times coming.

Dr. Emil Amberg made a forecast three decades ago, and the majority of the things predicted at that time for a hundred years hence have already become actualities. The doctor has again broken into prophecy (Detroit News, Jan. 4, 1931), which may be summarized: Today, we are suffering from over-mechanization; one hundred years hence, the world will have caught up with the inventions of the past fifty years so that instead of a curse they will become a blessing. Today, in other words, man has all but conquered the forces of nature; a century hence, he will have learned to control himself. Man will be valued not for his worldly possessions but for the amount of service he has rendered or is capable of rendering society. His voting power will depend upon his intelligence rather than on the fact that he or she happens to be a human being twenty-one years of age. Beauty of landscape will mean infinitely more to mankind than it does today. The annihilation of distance by means of rapid transportation and communication will go on so that skyscrapers will become obsolete and unnecessary. A hundred years hence the number of human beings will be limited through reasonable birth control in keeping with the means of sustenance so that war and famine will not require to step in to neutralize the results of human folly. The human race will become temperate in the use of alcoholic beverages, realizing that too much alcohol like too much of anything else is bad for both the individual and the group.

INVITING LIABILITY

In certifying to deaths for insurance companies one finds, as a rule, the following questions:

(a) Please state disease or diseases for which you attended patient in the past.

(b) Did deceased have any form of tuberculosis?

(c) Was there any cause for death in the habits, residence, family history, or the use of alcohol or drugs?

Any physician answering these questions at once causes himself to be liable for damages for imparting confidential information. The deceased's estate can institute suit against you for damages. The courts have so held. Just recently a New York physician was so sued.

We advise *that you decline to answer* these questions on *all forms* of insurance blanks.

It is an imposition on the part of insurance companies to ask these questions. In some of the other questions the insurance company is using the doctor to secure information of value to the company in determining its rates and protection. These questions should be ignored.

Lastly, your attention is again called to the resolutions of our House of Delegates. *Do not fill out* these blanks or impart information concerning death, illness, or injury unless you are paid for such opinions and your expert advice. Doctors have been imposed upon far too long. If each of the 145,000 doctors in this country filled out *but one* such certificate a year the insurance companies would be receiving $290,000 worth of expert advice for nothing. They couldn't secure it from lawyers for nothing. Why should they from doctors? Demand your fee in advance. Do not let them argue you out of it by stating your patient will be the loser. Patients can be recommended to companies who will pay.

The average doctor fills out at least ten to twenty such blanks a year. Are you so financially independent that you can afford

to contribute from $50 to $150 per year to our insurance companies? (The fee is from $2.00 to $10.00 per certificate.)

Cease being the "easy mark." Demand payment for your expert opinion and knowledge.

F. C. W.

NOTICE

Your attention is again called to the resolutions passed by the Michigan State Medical Society at the Jackson meeting in 1929 and again at Benton Harbor in 1930. These resolutions provide for the charging of a fee of not less than $2.00 for filling out each claim blank of Health and Accident Insurance Companies.

The resolutions provide that the fee shall be charged to the insurance company and not to the claimant. A majority of the insurance companies are declining to pay the fee when physicians bill them and send in the completed report. Therefore, it is the privilege of the physician to withhold filling out the claim blank until advance payment of the fee is made. Physicians in Detroit, who are members of the Wayne County Medical Society, are doing this in accordance with the resolutions and are getting results. It is recommended that the same policy be adopted by the members of all other County Medical Societies.

This matter has been carefully studied by the Civic and Industrial Relations Committee of the State Society, and at their meeting in Detroit, January 19, 1931, definite recommendations were made whereby a greater effort will be put forth to get the physicians of the state to collect the fee in advance. In addition to this, resolutions pertaining to this matter will be presented to the House of Delegates of the American Medical Association at the annual meeting in Philadelphia in June of this year. This recommendation was approved by the Council of the State Medical Society at its meeting in Ann Arbor, Wednesday, January 21, 1931, and it is now urgent that the members concur in the resolutions.

For the benefit of those who do not recall the resolutions, they are as follows:

"WHEREAS, the Michigan State Medical Society passed a resolution, at its annual meeting in Jackson, Michigan, September 17, 1929, regarding the filling out of claim proofs of Health and Accident Insurance Companies, and

WHEREAS, the responsibility for the payment of a fee to the physician for such services was placed upon the insurance company, and

WHEREAS, it was resolved that such fee be not less than $2.00 for each preliminary and final claim proof, the fee to be increased according to the type of service rendered, and

WHEREAS, since the adoption of this resolution the majority of Health and Accident Insurance Companies have disputed their responsibility to pay the physician, therefore

BE IT RESOLVED, that physicians refuse to fill out blanks for any insurance company unless payment is guaranteed to the physician by the insurance company, either direct or through the claimant, before the report is filled out, and

Further, that the home office of each insurance company be notified that the members of the Michigan State Medical Society have adopted this resolution."

(Adopted by the Michigan State Medical Society at the annual meeting at Benton Harbor, Michigan, September 15-17, 1930.)

These resolutions in no way affect the report blanks of industrial accident cases coming under the Workmen's Compensation Law.

H. S. Collisi.

DELIVER US

Noo, I lay me doon tae pray.

Almichty ane, hae mercy on a' the Doctors o' this bonnie state o' Michigan. There are ane or twa o' us wha need it.

Gang doon intil the cellar o' oor conscience an' help us tae sweep oot a' the rubbish an' dust that hae been gathering there a' the years syne we ca'ed on ye afore.

Gang doon intil the basement o' oor medical knowledge an' help us mak' a bonfire o' a' thae samples o' patento-proprieto-bunkico-synthetico-surecuroco things that clutter up oor progress. Gi' us mair mercury an' quinine an' sodae, wi' a pinch o' saut atween them.

Gi' us salvation frae a' agents an' propagandists an' a' men (aye, an' a' women) wha want tae mak-us rich an' a' brokers wha gi' us advice aboot buyin' stocks, aye, an' a' collectors.

Deliver us frae a' the nurses wha are ga'in frae hoos tae hoos practisin' medicine an tellin' the mithers they maunna hae the bairns' tonsils oot.

Save us frae the daumned thief wha tak's oor purse an' oor spare tire, an' man, if ye'll only save oor state frae its politicians. Dinna gi' us ony mair legislators, raither gi' us a big storm, wi' lots o' thunder an' lightnin' an' a flood o' water enouf tae wash awa half o' the legislators we noo hae. Aye: an' let the rain no stop until the saft soap is aff the ither half.

Gi us governors wha dinna get saft in the last oors o' their stay in the big hoos in Lansing.

Build a big wa' atween us an' oor neebor satan, an' a far bigger ane atween us an' the undertaker wha sells oor widows tin coffins. Aye: an' if ye hae ony room left in Heaven, just gi' us a sma' office on the groond floor if we dinna deserve ane higher up.

Noo, I lay me doon tae sleep. Guid nicht. Amen.

Weelum.

POST-GRADUATE COURSES IN MEDICINE

Perhaps never before in the history of the profession has the idea of contact from time to time with the sources of medical knowledge meant so much. The February number of the Journal of the Michigan State Medi-

cal Society called attention to the work now offered at the University of Michigan under the direction of the Department of Post-Graduate Medicine as well as the courses being prepared at Detroit. These courses are of such a character that the physician may obtain almost anything he requires—a short term intensive course in a single branch, either clinical or laboratory or he may spend a year.

Particulars regarding these courses may be procured from the director of Post-Graduate Medicine, University Hospital, Ann Arbor.

Very important does post-graduate medicine and surgery become when the movement for certification of specialists is considered. In a number of states a physician may not hold himself out as a specialist without special training and certification of the same. This idea is being not only discussed in our own state but steps are being taken towards enabling legalization.

COMMUNICATIONS

LICENSING SPECIALISTS

New Haven, Connecticut,
January 23, 1931.

Dr. F. C. Warnshuis, Secretary,
Michigan State Board of Registration,
1010 Maccabee Building,
Detroit, Michigan.

Dear Dr. Warnshuis:

I am sorry to have been delayed in answering your interesting letter of January 12th. I am delighted to know you are going to present the group of problems regarding a possible re-examination of physicians in practice and the matter of specialists. As you know, certification of specialists is now a part of the program in Denmark and Norway and has already been embodied in legislation in the Province of Alberta.

Bills designed for the same purpose have been introduced in several of the states but none has been passed so far. This matter will be brought up at the meeting of the New York Board of Regents the first week in February. It looks as though something will be done in some of the states before long. Possibly Michigan will lead the way in this country if the amendment you mention goes through.

I have no arguments on this problem with which you are not familiar. In talking with some of the men in New Jersey recently about the bill that was defeated there, is seems that the chief opposition was in the definition of the specialist. I understand that a new bill has been proposed which cannot be interpreted to deny the right of a physician to do surgery, for example, but does set up qualifications necessary for the physician that holds himself out to be a specialist.

This situation is handled in Great Britain in a different way by requiring members of the hospital staffs to have the higher qualifications of the respective Royal Colleges. In some ways the control of specialism can be dealt with more easily through control of the hospital staffs, but there is such a lack of uniformity of hospital standards of professional services that it will be a long time before anything like adequate differentiation can be set up here.

Probably one of the most important results of an effort to legalize specialism and recognize standards of training for the different specialties will be in the field of public education. I think we might expect a great deal of benefit from that direction.

In setting up the requirements for the specialties I hope we shall benefit by the experiences of the licensing of physicians and not set up mechanical standards of training. At the moment we are just emerging from the program of standardization in the state medical boards that has introduced so much rigidity and overcrowding of the medical courses. These rigid requirements were absolutely necessary at an earlier stage but I hope that the specific requirements for different specialties can be kept out of the statutes and can be retained as flexible provisions under the state medical board, which is true regarding medical licensure now in some of the states. We have this situation at the moment regarding the intern regulations which, in several of the states, defeats the educational purpose of the internship.

This letter is of no particular help to you. I have rambled on to indicate my interest in the subject and your kindness in writing me about it.

Hoping to see you in Chicago, and with warmest regards, I am,

Sincerely yours,
Willard Rappleye.

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535 North Dearborn St., Chicago,
January 29, 1931.

Dr. F. C. Warnshuis, Secretary,
Michigan State Board of Registration in Medicine,
1010 Maccabee Building,
Detroit, Michigan.

Dear Doctor Warnshuis:

I have received your letter of January 26, relative to my comments on the proposed amendments to your medical practice act. If my comments helped you, I am duly rewarded.

I believe that acts to regulate specialists are in the offing. Please read the article on "Specialists at Large," in the February issue of Harper's Magazine. It shows, in a limited way at least, the public view of the present unregulated practice of the specialties.

I know of no constitutional objection to the enactment of a law regulating the practice of any specialty. Such a law would fix a minimum amount of knowledge and skill, without which no physician could lawfully represent himself as a specialist. There is no more constitutional objection to such legislation than there is to legislation fixing the minimum amount of knowledge and skill required of a physician who desires to practice medicine generally.

If our Council on Medical Education and Hospitals is not prepared to make a recommendation as to the principles and standards to be embodied in a law regulating the practice of the specialties, I see no reason why the American Medical Association, through the council or otherwise, should not organize a committee representing general practitioners, the various specialties, the medical schools, and the state licensing boards, to report on the subject. If the American Medical Association will not undertake that study, after the matter has been called to its attention and it has had an opportunity of doing so, I see no reason why any other agency, such as the Michigan State Medical Society or the Michigan

State Board of Registration in Medicine, should not assume the leadership.

It will be possible to prepare a much better bill and to procure more uniform legislation in the several States if we have the benefit of the observations and experiences of the several agencies named above, before the preparation of the bill is undertaken. Moreover, a bill embodying principles approved by such a group as has been outlined above would certainly carry more weight in a state legislature than a bill not so formed.

It is not necessary, nor even desirable, that a working group, such as has been described above, undertake to embody in legal language the principles that they approve. It is sufficient and best that such a group state in concrete terms what those principles are, leaving it to persons who are familiar with the drafting of laws to embody them in the draft of a bill.

Sincerely yours,
Wm. C. Woodward, *Director,*
Bureau of Legislation and
Legal Medicine.

GENERAL NEWS AND ANNOUNCEMENTS

Have you purchased your set of Michigan's Medical History? Send in your check for $10.00 and the two volumes will be delivered within a week.

Dr. Stephen G. Molliea, who practised for about ten years in Detroit, has left that city to accept a position with the United States Veterans' Bureau.

Your attention is called to the communication published in the department of Society Activity dealing with your liability in filling out insurance blanks.

Do not fail to read the addresses of Dr. Waggoner, Dr. Sinai, and Dr. Tibbals contained in the minutes of the County Secretaries Conference published in this issue. They are of interest and afford much food for thought.

Drs. Nelson McLaughlin, W. H. Marshall and F. C. Warnshuis represented the State Board of Registration at the A. M. A. Conference on Legislation, Medical Education, Hospitals and Licensure held in Chicago Feb. 16-19.

Dr. Fred J. Hodges has been selected as Professor of Roentgenology to succeed the late Dr. P. M. Hickey. Dr. Hodges is at the present time lecturer of radiology at the University of Wisconsin. His appointment is for a term of three years.

Dr. Gladys Dick, co-discoverer (with her husband, Dr. George F. Dick) of the causative factor of scarlet fever, delivered a lecture on "Scarlet Fever" before the Washtenaw County Medical Society at the regular meeting of the Society held February 3.

Dr. Arthur J. Cramp, Director of the Bureau of Investigations of the American Medical Association, addressed the Wayne County Medical Society January 20 on "Patent Medicines and the Public Health." The audience consisted of many laymen as well as members of the medical profession.

Dr. Norman F. Miller, a graduate of the Medical School of the University of Michigan in the class of 1920, has been appointed Professor of Obstetrics and Gynecology to succeed Dr. Reuben Peterson, who has resigned the position which he has held for thirty years.

Doctor, if this general news feature of the Journal M. S. M. S. is of interest to you, you can make it of interest to others by sending to the editor items similar to those you read in this section.. The fact that you and others read these general news columns is justification for their presence.

Dr. E. A. Christian of Pontiac, who was on the citizens' planning committee for the new Pontiac General Hospital, presented to the city and the hospital a library of some 300 volumes of medical journals and other books which he has collected. These books date from 1850 and are a consecutive record of medical practice and progress, and will form a nucleus around which a hospital library may be built.

The Northern Tri-State Medical Society will hold the irregular annual meeting at the University Hospital and Michigan Union on April 14. There will be a whole day of clinics and addresses under the personal direction of Dr. C. C. Camp of the University. Dr. Camp is the Michigan councillor for the Society for the present year. The officers and councillors of the Organization met in Toledo February 11 and mapped out a complete program. The President is Dr. Norris Gillette of Toledo. Dr. H. W. Pedlow of Lima, Ohio, is secretary.

A conference of the committee in Research and Radiology was held February 2 and 3 in Washington. This committee was organized in Detroit during the American Medical Association meeting in June last. Dr. Rollin Stevens of Detroit was in attendance at the Washington meeting. The object of this organization is to encourage research in all branches of physics pertaining to Radiology in its broadest sense. Several fellowships have been granted, among them three at the University of Illinois for the purpose of bringing about an improvement in X-ray tubes.

The formal opening of the new Pontiac General Hospital took place January 20, when the event was observed at a dinner held in the staff dining room. The assembly consisted of the medical staff, the city officials and a number of invited guests. The architect, Leo J. Heenan, formally turned over the building to City Manager James R. Pollock, who accepted it on behalf of the city. Dr. L. F. Cobb presided. Those who spoke during the evening were, Mayor A. L. Nique, Dr. E. A. Christian, Charles L. Rockwell, C. W. Ham, Dr. L. A. Farnham, Leo J. Heenan, James R. Pollock, J. A. Varion and Dr. E. R. Crew of Dayton, Ohio. Among the interesting statements made by Dr. Crew was his reference to the economy manifest in the erection of the hospital. The average cost of construction of American hospitals ranged from seventy-five cents to one dollar a cubic foot. The cost of the new Pontiac General Hospital was fifty-four cents a cubic foot. He traced the development of the modern hospital, stating that during the past quarter of a century there had been as many improvements as there had been in automobiles during the time.

The advances made in the care of the injured in industry are developing annually. In view of this fact the Board of Directors of the Michigan Association of Physicians and Surgeons offer an honorarium for the best first and second essays submitted on some subject bearing on Industrial Medicine or Surgery. All interns and resident house officers in any Michigan Hospitals can qualify for this contest.

It is proposed that this be an annual function of the Association to offer opportunity for still further development of the highest grade of practice in this field. The honorarium offered for the prize essay will be $50.00; for the second best essay $25.00. The essays must contain a minimum of 1,000 words and a maximum of 3,000 words. A copy of the essay must be in the hands of the Secretary of the Michigan Association of Industrial Physicians and Surgeons by April 1, 1931. For information write to Dr. Frank A. Poole, Secretary, 620 State Office Building, Lansing, Michigan. The object of this prize competition is to encourage internes to emphasize reparative surgery while serving internships under the direction of competent surgeons.

TESTIMONIAL BANQUET TO DR. PETERSON

Dr. Reuben Peterson, for thirty years Professor of Gynecology at the University of Michigan medical school, was tendered a complimentary dinner at Ann Arbor on January 14th, on the formal acceptance of his announced intention to retire at the end of the present academic year. At 3 P. M. a meeting was held presided over by President Ruthven at which the presentation of Dr. Peterson's portrait to the University took place. The portrait, of which a half-tone reproduction appears in this number of the Journal of the Michigan State Medical Society, was painted by John C. Johansen. The presentation was made by Dr. C. L. Patton on behalf of former assistants of Dr. Peterson whose names are here given. The portrait was accepted by President Ruthven on behalf of the University. An address of appreciation was made by Dr. F. G. Novy, followed by remarks by Dr. Peterson. After the presentation ceremony Dr. and Mrs. Peterson received at their home.

The Testimonial Banquet was held in the evening at the Ballroom of the University of Michigan League. Dr. George Kamperman, of Detroit, was toastmaster. Responses to toasts were made as follows: Early Associations, Dr. Richard Smith; Early University Days, Dr. William H. Morley; Dr. Peterson as a Colleague, Dr. A. S. Warthin; As Seen by a Regent, Dr. Walter Hulme Sawyer; Our Chief, Dr. Norman Miller; The Department, Dr. Reuben Peterson.

The following have been Dr. Peterson's assistants since he assumed the professorship of Gynecology and Obstetrics at the University of Michigan thirty years ago: Dr. William H. Morley, Pontiac, Michigan; Dr. Thomas S. Burr, Rumford, Me.; Dr. G. R. Pray, Jackson, Mich.; Dr. R. L. Morse, Norwalk, Ohio; Dr. A. P. Reed, Rochester, N. Y.; Dr. C. L. Patton, Springfield, Ill.; Dr. R. L. Parmeter, Detroit, Mich.; Dr. S. R. Haythorn, Pittsburgh, Pa.; Dr. C. G. Parnell, Rochester, N. Y.; Dr. H. F. McGee*; Dr. Wales M. Signor, San Francisco, Calif.; Dr. E. P. Billings, Grand Rapids, Mich.; Dr. F. C. Witter, Detroit, Mich.; Dr. George Kamperman, Detroit, Mich.; Dr. N. N. Wood, Los Angeles, Calif.; Dr. R. G. Leland, Chicago, Ill.; Dr. H. H. Cummings, Ann Arbor, Mich.; Dr. L. H. S. DeWitt, Kalamazoo, Mich.; Dr. W. F. Seeley, Detroit, Mich.; Dr. F. M. Loomis, Oakland, Calif.; Dr. R. A. Bartholomew, Atlanta, Ga.; Dr. L. L. Bottsford, Akron, Ohio; Dr. J. W. Sherrick, Oakland, Calif.; Dr. H. Henderson, Detroit, Mich.; Dr. R. S. Cron, Milwaukee, Wis.; Dr. Lucy M. Elliot, Oakland, Calif.; Dr. R. W. Shelley, Lockport, N. Y.; Dr. M. D. Haag, Toledo, Ohio; Dr. N. F. Miller, Iowa City, Ia.; Dr. T. W. Adams, Portland, Ore.; Dr. L. E. Daniels, Detroit, Mich.; Dr. W. H. Rumpf, St. Cloud, Minn.; Dr. J. M. Pierce, Ann Arbor, Mich.; Dr. L. E. McCaffrey, Rochester, N. Y.; Dr. H. A. Furlong, Pontiac, Mich.; Dr. H. S. Morgan, Lincoln, Neb.; Dr. J. V. Campbell, Oakland, Cal.; Dr. L. G. Baldwin, Pasadena, Calif.; Dr. R. G. Hubbard, Detroit, Mich.; Dr. N. R. Kretzschmar, Ann Arbor, Mich.; Dr. J. W. Kemper, Ann Arbor, Mich.; Dr. R. W. Wilkins, Ann Arbor, Mich.; Dr. C. P. Huber, Ann Arbor, Mich.; Dr. G. A. Carmichel, Ann Arbor, Mich.; Dr. George Sehring, Ann Arbor, Mich.; Dr. Walter Belser, Ann Arbor, Mich.

*Deceased

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UPPER PENINSULA MEDICAL SOCIETY

(TENTATIVE PROGRAM, AUGUST 13 AND 14, HOUGHTON)

August 12—Post Graduate Clinical Conference under auspices of the Michigan State Medical Society at Houghton, Mich.

August 13—9:00 A. M. Registration of members at Headquarters (Houghton Club).

MORNING SESSION

Welcome address by Dr. Hotchkiss, President, Michigan College of Mining and Technology.

Response by Dr. C. N. Bottum, Marquette, President Upper Peninsula Medical Society.

"Bronchiectasis," Dr. Stuart Pritchard, Medical Director of the W. K. Kellogg Foundation, Battle Creek, Mich.

"Heart" (Exact disease will be given later.), Dr. Frederick Tice, Chicago, Professor of Medicine and Clinical Medicine, University of Illinois, College of Medicine.

Adjournment for lunch.

AFTERNOON SESSION

"Gastric Surgery," Dr. Norman Allen, Associate Attending Surgeon, Harpers Hospital, and Instructor in Surgery, Detroit College of Medicine and Surgery.

"Surgery of the Gall Bladder and Ducts," Dr. Waltman Walters, Surgical Section of Dr. Waltman Walters, Mayo Clinic.

"Acute Intestinal Obstruction," Dr. R. C. Stone, Battle Creek, President, Michigan State Medical Society.

"Pelvic Infections," Dr. Norman F. Miller, Iowa

City, Prof. Obstetrics and Gynecology, State University Iowa College Medicine.
Recess, 15 minutes.
"Surgical Kidney," Dr. Armour Fletcher, Milwaukee, Professor of Genito-Urinary Surgery, University of Marquette Medical School.
"Nephritis," Dr. E. K. Kerr, Chicago, Professor Internal Medicine, Rush Medical School.
"Pathology, Heart and Kidneys," Dr. V. C. Weller, Ann Arbor, Professor Pathology, University Medical School, Ann Arbor.
Adjournment.
Society Banquet for Physicians and Ladies at Douglass House.

AUGUST 14, MORNING SESSION

Meeting called to order at 9:15 A. M.
"Coronary Disease," Dr. N. C. Gilbert, Chicago, specialist and practice limited to diseases of heart.
"Some Phase of Orthopedics," Dr. V. L. Hart, Ann Arbor, Professor, University Medical School, Ann Arbor.
"Surgery of Sympathetic Nervous System," Dr. A. W. Adson, Surgical Section of Neurology, Mayo Clinic.
"Mental Health of Children," Dr. E. H. Campbell, Medical Supt., Newberry State Hospital, Newberry.
"Diseases Rectum," Dr. Louis Hirschman, Detroit, Proctologist.
Business Meeting and Election of Officers for 1932.
Golf for members desiring golf at Houghton Club.
Clinic at St. Joseph's Hospital, Hancock, Mich.

FIGHT PLANNED ON ANTI-VIVISECTION BILL

Because the vote to report out the so-called anti-vivisection bill in the House District Affairs Committee was taken when many committee members opposed to the bill were absent, Representative Wright Patman, Democrat, of Texas, declared he would stage a fight on the floor to send the bill back to committee. The bill would prohibit experiments on living dogs in the District of Columbia.

Previously Representative Patman attempted to get a committee vote favorable to a return of the bill, and was defeated by a narrow margin. Practical considerations caused many committee members to vote against Representative Patman's resolution. They took the position that they had gone over the matter thoroughly in hearings, and that it would be an imposition on the committee to open up the matter again and get the lobbyists for and against the bill all ready to open fire again with their heavy artillery.

Representative Patman, however, insisted that the veterinarians had not had a chance to be heard.

In the Senate District Committee, no action on the bill has been taken, although evidences of the antivivisectionists' work are constantly pouring in. Literally hundreds of identical coupons and postal cards asking the Senate Committee to act favorably on the bill have come to the committee.

With only about seven weeks of the seventy-first congress remaining to go, passage of the anti-vivisection bill by this congress seems doubtful. All legislation unenacted on March 4, automatically dies, and must be reintroduced next session in order to command consideration.—*Science Service.*

RADIOLOGISTS CLEVER AT DIAGNOSING CANCER

High accuracy in diagnosing cancer from X-ray pictures was demonstrated by the group of 292 radiologists gathered in Baltimore for postgraduate study of the disease. Out of 200 voting on one case, 197 were correct in their diagnosis; in another, only one in 157 made a wrong diagnosis.

The scientists came at the invitation of Dr. Joseph Colt Bloodgood of the Johns Hopkins University, who is sponsoring a series of postgraduate demonstrations to be given four times a year in connection with the Surgical Pathological Laboratory of the Johns Hopkins University. This session was devoted to bone cancer and other diseases of the bone.

"You should be well satisfied with yourselves," Dr. Bloodgood told the doctors after they had given their diagnoses on a number of cases. The doctors were shown X-ray pictures of the diseased bone and lantern slides of microscopic sections of the tissues. The history of the case was briefly told them. Then they handed in their diagnoses and recommendations for treatment. Finally, they were told the diagnosis made of each case at the Johns Hopkins Laboratory, the treatment instituted, and the final result.

These demonstrations have inaugurated a new method of teaching, the mass intensive method, Dr. John M. T. Finney, clinical professor of surgery at the Johns Hopkins University, told the scientists.

"You will see here specimens such as you would not see in a lifetime of practice," Dr. Finney said.

The last ten years show an increase of nearly 30 per cent in the number of patients who are living five years or more after treatment for cancer of the bone, Dr. Bloodgood said at the beginning of the session. The cures have been accomplished by amputation, by cutting out part of the bone involved, and by irradiation with radium or X-ray.

The reason for the tremendous improvement in the cures is that people are learning to insist on immediate X-ray examination when there is any pain or swelling in the region of a bone or joint, regardless of whether there has been an injury or not.

Since the public has learned to come earlier for examination, the doctors must learn to distinguish cancer from other diseases in earlier stages than before. Correct diagnosis in this type of case often means the saving of a limb. The postgraduate demonstrations are planned to help the doctor keep up with his patients and enable him to diagnose their diseases correctly no matter how early they come for examination. In this lies a hope of controlling cancer.—*Science Service.*

OCCLUSIONS OF LUMEN OF FALLOPIAN TUBE

Forty-nine fallopian tubes were studied by RAYMOND E. WATKINS and FRANK R. MENNE, Portland, with reference to occlusions of the lumens. They present a method of demonstrating the extent, character and resolution of the occlusions by the injection of bismuth mixtures. They assert that occlusions of the lumen may occur in any portion of the tube and that the most frequent site of occlusion is in the isthmian portion. Resolution of the lumen depends on the absorption of the products of inflammation. Healed abscess cavities and canaliculi demonstrated by bismuth injections are important causes of extra-uterine pregnancy. The fimbriated end when not adherent to the ovary is frequently open or partially so. Tubo-ovarian abscesses communicating with abscess cavities in the ovary were not found in their cases. Operations to re-establish the lumen should never be contemplated until a definite diagnosis of the location of the obstruction is made. Surgery to re-establish the lumen of the tube is not satisfactory when the occlusion is located in the intramural or isthmian portions.—Journal A. M. A.

SOCIETY ACTIVITY

PROCEDURES TO BE FOLLOWED WHEN A DOCTOR IS THREATENED WITH MALPRACTICE SUIT

There seems to be considerable misunderstanding as to what course should be pursued when a member is threatened or is sued for malpractice. The Medico-Legal Committee of the State Society will defend every member in good standing through all the courts. In order that there may be no entanglements and that proper legal protection may be given, members are urged to observe the following instructions—

When threatened with suit or when served with a bill of complaint for malpractice, notice should be *immediately* given to the Medico-Legal representative of your local county society. Notice should also be *immediately* given to Dr. F. B. Tibbals, chairman of the Medico-Legal Committee, 410 Kresge Building, Detroit, Michigan, together with all papers or notices that may have been served upon you.

It is important that a member does not discuss either with an attorney or with the plaintiff any of the facts or details concerning the suit. Pursue a course of absolute silence and await full instructions from Dr. Tibbals. Do not engage any local attorney, but await instructions that will be given to each member in regard to the employment of legal talent. This procedure is absolutely essential and imperative in order that you may be surrounded with the fullest protection.

Members are urged, when attending fracture cases, to have an X-ray picture made before any attempt at reduction or treatment, and also to have several X-ray pictures taken during the course of treatment and upon the final discharge of the patient. Failure to do so makes procedure for defense difficult.

Remember, in all suits or threats of suit, to *immediately* send a full report to Doctor Tibbals.

SECRETARIES' CONFERENCE

This issue contains the papers and discussions of the Annual Conference of our County Secretaries. The information contained in the papers and discussions is of personal importance and interest to every member. Our economic problems, our public relationship and the trend of medicine is of equal concern as are our scientific discussions. Doctors must be conversant with these problems. We urge a careful reading of the transactions of this conference. The minutes of the Council are also incorporated in this issue. Keep abreast of your Society's activities.

STATE EXPENDITURES FOR HEALTH

The appended figures are taken from the proposed budget for state expenses for 1931. They indicate the sums that have been requested by various departments to defray the expense of providing for or giving care and medical service to citizens. These figures do not impart all of the expenditures, as various departments include in their budgets the expense incurred in providing medical care. No exhibit is made as to the state's contribution to the expense of running the University hospital. These general figures are imparted to reveal to our

members just how far we have gone and what the taxpayer puts up for the care of the defective, the dependent and for the health protection of our people.

Ponder over these figures. Do not conditions merit a survey and recommendation to lessen this financial burden that is placed upon our tax-paying citizens? It is yours to answer.

Department of Health	$ 529,670.00
Crippled Children	40,000.00
Examining Boards	74,307.00
School for Deaf	197,000.00
School for Blind	126,095.00
Ypsilanti Hospital	405,075.00
Kalamazoo Hospital	878,750.00
Pontiac Hospital	553,650.00
Traverse City Hospital	803,700.00
Newberry State Hospital	399,700.00
Ionia State Hospital	233,325.00
Psychopathic Hospital	271,425.00
Epileptic Colony	110,380.00
Blind Employment	73,095.00
Howell Sanitarium	337,750.00
Total	$5,033,922.00
REQUESTS	
Land, Structures, and Improvements	2,271,990.00
Conveying Children to U. of M. Hospital	115,000.00
County Sanatorium's Patients	750,000.00
Day School's Deaf and Blind	110,000.00
Investigating Medical Treatment of Children	25,000.00
Medical Treatment of Children	1,125,000.00
Crippled Children Schools	225,000.00
Transferring Insane	61,000.00
Grand Total	$9,716,912.00

Approximately one-tenth of our state annual budget. To this there must be added the other items specified above but not included in these totals. How far has state medicine, so called, invaded Michigan?

SUPREME COURT DECISION

The following Supreme Court opinion is of importance and vital interest. It answers a question that has been debated for over twenty years. It empowers the Board to revoke a license without first securing a court conviction. It empowers the Board to discipline its licentiates. The opinion follows:

State of Michigan
Supreme Court
183—October Term, 1930
Filed Jan. 23, 1931

Joseph H. Hanson, M.D.,
Plaintiff and Appellant,

v.

Michigan State Board of Registration in Medicine
Defendant and Appellee.

Before the entire bench.
North, J.

This is certiorari to review the action of the Michigan State Board of Registration in Medicine in revoking plaintiff's license to practice medicine and surgery. Complaint is made that:

I. Proper notice of the exact charges preferred was not given to plaintiff.

II. The Board's action was not based upon sufficient and proper evidentiary facts.

III. The hearing was unfair, arbitrary and not in accordance with the fundamental rules of evidence.

IV. The Board as constituted does not conform to statutory requirements and therefore is without power to act.

Section 6726, Vol. 2, Comp. Laws 1915, vests in the Board of Registration the power "to refuse to continue" the license of any physician to practice who is guilty of "grossly unprofessional conduct," which is declared by the statute to include within its meaning (among other unprofessional acts enumerated): "The obtaining of any fee on the assurance that an incurable disease can be permanently cured." This record discloses that numerous complaints of alleged unprofessional conduct on the part of plaintiff had come to the attention of the Medical Registration Board. These complaints for the most part were contained in letters and embodied much that was of a hearsay character. An investigation by the Board led to interviews between some of its members and plaintiff, and at least on one such occasion plaintiff's attorney was also present. Thereafter notice that charges of unprofessional conduct had been made against him was served upon plaintiff.

At the time and place designated in the notice plaintiff and his attorney appeared. A hearing was had before the full membership of the Board. The originals of four complaints were shown to plaintiff and his attorney. Only that of Anthony Klette was under oath, and as no testimony seems to have been taken in support of the other complaints that of Klette alone merits consideration. In an affidavit, dated January 20, 1930, Mr. Anthony Klette of Detroit charged that his son had been afflicted with dementia præcox for four or five years, and that upon taking him to Dr. Hanson, the latter told the affiant "that he would bring the son back to a perfect mental state and that he proposed to do this by the administration of serum and certain liquid

medicines, and he agreed to do this for a total payment of five hundred dollars." Two hundred and fifty dollars was paid down, the balance to be paid at a future date. The affidavit further recites: "For this amount of money he assured me that my son would be completely cured."

At the hearing, evidently for the purpose of advising plaintiff and his counsel of the specific complaints made against the Doctor, there was read the "Report of the Commission on Registration and Standard," which committee is composed of five members of the Board. Touching the complaint under consideration, this report contains the following:

"(1) Complaint filed by Mr. A. Klette, 5893 Hazlett avenue, Detroit, stating that Dr. Hanson promised to cure his son of dementia præcox for the sum of $500.00. This amount to be paid $250.00 down, and the balance later. After 20 months treatment the boy was unimproved. After this complaint was filed, Dr. Hanson returned the $250.00 to Mr. Klette."

The Doctor's attorney made a statement to the Board at this hearing which included the following:

"* * * I went to see Dr. Warnshuis [Secretary of the Board] and asked him about what the charges were. I supposed they were written charges, but I understand there are no written charges and Dr. Warnshuis told me of the complaints that were said to have been made and I have taken this up with my client and we are here prepared to meet those. I would be very glad to know what it is we have to meet, and glad to do all I can to help you gentlemen. * * * I will be very glad, if you gentlemen care to hear him [Dr. Hanson], to find out from him the details of these different cases. I think that is reasonable. So, if you will just take a seat here, if there will be no objection, gentlemen."

Of the specific charge we are reviewing, Dr. Hanson, voluntarily testifying as a witness in his own behalf, stated:

"Dr. Warnshuis and, I believe, Dr. McLaughlin were both there at the time I was called to your [plaintiff's attorney] office, and you asked me whether I had treated a man by the name of Klette and I told you yes, and you asked me what the man had, and I told you dementia præcox, and you asked me whether the condition was curable, and I said absolutely no, under no condition; dementia præcox is not curable."

As noted above after complaint was made, Dr. Hanson returned the $250 paid him by Mr. Klette. This was done with the understanding that the parties concerned would not make complaint against the Doctor. No other witnesses testified relative to the merits of the Klette complaint. The return of the Board to this court, which is not traversed, embodies from its record of this hearing the following:

"Accused appeared in person and with his attorney, and was given ample opportunity to present to the Board such statements, evidence and witnesses as to why he was not guilty of violations as charged.

"Upon termination of the open hearing, the Board went into executive session. After carefully weighing and reviewing the evidence presented, the finding of the Board of Registration in Medicine was that Dr. Hanson had been guilty of grossly unprofessional and dishonest conduct, obtaining fees on the assurance that an incurable disease could be permanently cured, making grossly improbable statements, and violating the various provisions of Subsection 6 of Section 3 of the Medical Practice Act."

By the unanimous action of the full Board Dr. Hanson's license to practice was thereupon revoked. About four months later a petition in behalf of the Doctor was filed with the Board seeking rescission of its order revoking the Doctor's license. This petition was considered and denied by the unanimous action of the Board.

In reviewing by certiorari, the Board's finding of facts based on competent evidence is binding upon the court. In revoking plaintiff's license the Board's action was an exercise of police power and not, at least in a strict sense, the exercise of judicial power. Kennedy v. State Board, etc., 145 Mich. 241, 245. The Board was not required to proceed in strict accordance with rules applicable to judicial tribunals. In a proceeding of this character, unless otherwise provided by statute, the requisite proof may be by deposition (Hurwitz v. North, 304 Mo. 607), or by affidavit (Mathews v. Hedlund, 82 Neb. 825). The right to compulsory process is not indispensable. State v. Goodier, 195 Mo. 551. What is required of officers and boards in the exercise of powers of removal or revocation, such as are under consideration, is considered in numerous adjudicated cases. We cite only the following: Dullam v. Willson, 53 Mich. 293; Munk v. Frink, 81 Neb. 631; State v. Goodier, supra.

"In general the action of a board or officer in revoking a license must not be arbitrary. It must be for cause, only, and based on specific charges made and evidence submitted." 17 R. C. L. 555.

Unless the right is waived, the person charged is at least entitled to:

(1) Notice of a time and place of hearing.

(2) A hearing before a properly authorized body.

(3) A reasonably definite statement of the charge or charges preferred against the accused.

(4) The right to cross-examine the witnesses who testify against him.

(5) The right to produce witnesses in his own behalf.

(6) A full consideration and a fair determination according to the evidence of the controversy by the body before whom the hearing is had.

Tested by the applicable rules we conclude that plaintiff herein had such a hearing before the Board of Registration in Medicine as he was entitled to in law. He was given the required notice, he appeared with his counsel, and was informed of the charges made against him and embodied in the records of the Board. His counsel announced: "We are here prepared to meet" the charges made. Mr. Klette's affidavit in support of the charge was before the Board and was submitted to the accused and his attorney. The accused voluntarily testified in his own behalf. No request was made by him or by his attorney for an opportunity to produce or that the Board should call other witnesses who had knowledge of the charge preferred. Nor was there a request to cross-examine Mr. Klette, whose affidavit in support of the charge was before the Board. As noted the Board deliberated and found Dr. Hanson guilty of the charge, *i.e.*, "obtaining fees on the assurance that an incurable disease could be permanently cured." Klette's affidavit together with the doctor's admissions sustained the finding. There was no demand that Klette be produced for cross-examination. Where there is no demand for cross-examination and no objection made, the sworn statements of witnesses are competent to establish the charge. Mathews v. Hedlund, supra; Traer v. State Board, etc., 106 Iowa 559. Except as exercised, defendant's rights were waived by his failure to assert them and by acquiescing in the proceeding taken. The record discloses nothing that would justify us in disturbing the Board's determination.

Appellant's contention that the Board had no power to hear charges and revoke the Doctor's license to practice until he had first been convicted in a court of criminal jurisdiction is without merit. The statute is not reasonably subject to such construction. Nor is it of consequence that the sixth subdivision of paragraph three, Section 6726, Vol. 2, Comp. Laws 1915, does not expressly provide for giving notice of the hearing to the one charged, as does the seventh subdivision. It may be noted that prior to the amendment by Act 368, Pub. Acts 1913, the provisions of these two subdivisions were embodied in one. If the provision "for a fair hearing" were entirely omitted from the above subdivision it would still be implied and considered as an indispensable part of the enactment. As stated by Justice Champlin in Dullam v. Willson, supra:

"It is to be understood as required that the tribunal, to which is committed the duty of inquring and determining, shall give opportunity to the subject to be heard in support of his innocence or his capacity."

The remaining question is presented by appellant's contention that the defendant Board is without power to act because its membership does not conform to the statutory requirement (Vol. 2, Section 6724, Comp. Laws 1915) which specifies that this Board of ten members shall be composed of not more than five persons from the regular school of medicine, not more than two from the homeopathic, not more than two from the eclectic and not more than one from the physio-medical school. The Board is composed of seven members of the so-called regular school, two of the homeopathic, one of the eclectic; but none from the physio-medical. Plaintiff is of the regular school. We think the Board must be held to be a *de facto* Board, and in any event since the action taken in the instant case was unanimous and the statute (Vol. 2, Section 6724, Comp. Laws 1915) provides that the business of the Board "shall be transacted by and receive the concurring vote of at least seven members," appellant's contention cannot be sustained.

The relief sought by plaintiff is denied, and his petition dismissed with costs to defendant.

Henry M. Butzel
George M. Clark
Nelson Sharpe
Louis H. Fead
Concurred with *North, J.*

DISSENTING OPINION

BEFORE THE ENTIRE BENCH.
POTTER, J.

Plaintiff and appellant, claiming his license to practice medicine was irregularly and illegally revoked, brings certiorari against the Michigan State Board of Registration in Medicine, to review its action in so revoking it. He claims respondent board is illegally constituted; that no specific charges were made against him, nor served upon him, and no legal evidence was introduced against him, and the proceedings for revoking his license were irregular, il-

legal and void. The respondents return that petitioner and his attorney were given ample opportunity to present to the board such statements, evidence and witnesses as to why he was not guilty of the violations as charged and it claims this was sufficient. When petitioner was licensed to practice medicine, there was conferred upon him something akin to a franchise, which was valuable, and in the nature of property, which could not be taken from him without due process of law.

In Mathews v. Hedlund, 82 Neb. 830, it is said:

"It is urged that one cannot have a property right in a license to practice medicine; that it is within the police power to name the conditions upon which such a permit shall issue and may be enjoyed, and that the holder thereof takes the privilege with the condition annexed that his license may be revoked at any time by the power that gave it. There is much force in the argument, and many authorities may be cited to sustain it, but we are of opinion that after a license has been issued the right thereunder to practice medicine is a valuable right, and one that may not be taken away without good cause; that, if such license is canceled by a board of health, it must be upon proper charges, with opportunity to appear and defend by the introducing of evidence and the cross-examination of those witnesses who testify against the physician at the hearing. Munk v. Frink, 75 Neb. 172; Hewitt v. State Board of Medical Examiners, 148 Cal. 590; Smith v. State Board of Medical Examiners, 117 N.W. (Ia.) 1116. The hearing in the instant case did not involve the determination of the learning or professional skill of the defendant, but whether he had performed a criminal operation upon the person of a patient. Under the circumstances of this case the revocation of defendant's license, as reasoned by Mr. Commissioner Ames in Munk v. Frink, supra, was analogous to a forfeiture and involved the exercise of judicial or quasi-judicial power, within the meaning of section 580 of the code. Board of Aldermen v. Darrow, 13 Colo. 460, 16 Am. St. Rep. 215; State v. Common Council, 53 Minn. 238; People v. Board of Police Commissioners, 155 N.Y. 40; People v. Hoffman, 166 N.Y. 462; College of Physicians and Surgeons v. Guilbert, 100 Ia. 213."

In Dullam v. Willson, 53 Mich. 392, the question of the Governor's right to remove officers under the constitutional authority conferred upon him, by amendment of the constitution of 1850, was involved. It is said:

"He is not authorized to exercise the power at his pleasure or caprice. It is only when the causes named exist that the power conferred can be exercised. It follows as a necessary consequence that the fact must be determined before the removal can be made. It is also clear that the fact must be determined by some tribunal invested with judicial power, for a determination whether specified causes exist in the exercise of judicial functions. Judicial determination of facts must rest upon and be preceded by notice, proof and hearing."

This case has been followed by subsequent decisions of the court. Not only was the petitioner entitled to a specific statement of the charges made against him but such charges must have been supported by evidence. No evidence was introduced against him. The burden was upon respondent to introduce evidence to show petitioner was not entitled to practice. An order revoking his license cannot legally be based upon hearsay, rumor, the ex-parte affidavits of disgruntled patients, nor can it be made to gratify jealousy, humor or caprice. Petitioner was not given the opportunity to cross-examine witnesses against him.

"The benefit of cross-examination is an essential condition to the reception of direct testimony." Heath v. Waters, 50 Mich. 457.

The testimony of any witness which the petitioner did not have a right to cross-examine was not evidence but a mere ex-parte statement. The rule is thus stated in 48 Corpus Juris 1103:

"In a proceeding before a board to revoke a license or certificate of a physician or dentist, the holder of the license or certificate must be given an opportunity to introduce evidence and cross-examine the witnesses who testify against him; and a statute governing the proceedings is unconstitutional as denying due process of law where it does not make any provision whereby the attendance of witnesses can be required or their testimony procured."

Both the state and the United States constitutions provide that no one may be deprived of life, liberty or property without due process of law. In this case, no written complaint was filed against the petitioner; no specific charges were made against him; he was not furnished with the copy of the charges which he was to answer; no opportunity for filing a written answer to a verified complaint was given him; no testimony was introduced against him; he was not given the right to cross-examine the witnesses against him. The procedure was irregular, illegal and void. Plaintiff is entitled to the relief prayed.

Howard Wiest
John S. McDonald
Concurred with *Potter, J.*

INSURANCE BLANKS

To County Secretaries and Members
Michigan State Medical Society.

Gentlemen:

By direction of the Council I am submitting the following statement for your information with the request that you transmit it to your membership. It is the earnest desire of the Council and the Committee on Civic and Industrial Relations that this information reach *every member*. Further, that a firm, unswerving position be taken by each member. And lastly, that *every member decline* to fill out any Insurance Blank until he has received his fee for doing so.

Insurance companies have imposed too long upon physicians. They have and are now profiting by reason of the expert opinions and advice obtained from physicians without paying for it. Such imposition should no longer be tolerated. It is estimated that these insurance corporations are receiving approximately a million dollars' worth of opinions and expert testimony from physicians without remunerating the physicians.

The average doctor fills out about 20 to 50 such blanks a year. Does he relish making a contribution of $40 to $100 per year to corporations?

Insurance representatives, when a doctor declines to fill out a blank, advance several "sob arguments": "The patient or the relative is being deprived of his money," etc. Do not be persuaded by his argument. A *united front* and a *firm stand* by *every doctor* will cause them to accede to our demands.

The Council, the House of Delegates, and the Committee direct that every member comply with the following resolution:

The committee wish to report that in conformity with Resolution No. 1 passed at the annual meeting last year, in which it was

"Resolved, that Physicians charge a fee of not less than $2.00 to Old Line Life Insurance Companies for rendering special reports of the health and physical condition of prospective applicants for insurance, etc. . . ."

that these Old Line Insurance Companies apparently are cooperating. To date only one complaint has been received, in which there was refusal to pay for filling out a claim.

Resolution No. 2 passed at the annual meeting last year

"Resolved, that physicians charge a fee of not less than $2.00 for each preliminary and final claim proof, etc. . . ."

has received considerable comment from physicians throughout the state. Several cases are on record in the chairman's office, in which the insurance companies have refused to honor statements of physicians for services rendered within the meaning of the resolution. Correspondence from insurance companies indicates that they do not intend to consider the physicians in this matter. The resolution apparently is weak and does not contain an alternative for the physician to resort to in case the insurance company refuses payment.

Your committee suggests that physicians refuse to fill out blanks for health and accident insurance companies unless

payment is guaranteed to the physician by the insurance company, either direct or through the claimant, before the report is filled out.

Your committee further recommends that an ultimatum be delivered to each insurance company that the members of the Michigan State Medical Society refuse to fill out insurance blanks unless payment is guaranteed in this way. Ultimately it will mean that insurance companies will provide for payment for such services in the original contract or policy, which is issued to the claimant, and so advise him at the time it is purchased. The committee therefore makes this recommendation and asks that, if adopted, they be authorized to notify all insurance companies in accordance with the following resolution:

Whereas, the Michigan State Medical Society passed a resolution, at its annual meeting in Jackson, Michigan, September 17, 1929, regarding the filling out of claim proofs of Health and Accident Insurance Companies, and

Whereas, the responsibility for the payment of a fee to the physician for such services was placed upon the insurance company, and

Whereas, it was resolved that such fee be not less than $2.00 for each preliminary and final claim proof, the fee to be increased according to the type of service rendered, and

Whereas, since the adoption of this resolution the majority of Health and Accident Insurance Companies have disputed their responsibility to pay the physician, therefore

Be It Resolved, that physicians refuse to fill out blanks for any insurance company unless payment is guaranteed to the physician by the insurance company, either direct or through the claimant, before the report is filled out, and

Further, that the home office of each insurance company be notified that the members of the Michigan State Medical Society have adopted this resolution.

Members when filling out a blank after receiving a fee, should *not* answer any of the following questions:

For what diseases have you attended the patient?
Has he ever had tuberculosis?
Have any relatives died of tuberculosis or heart disease?
What is his present physical condition?

If you answer these questions you impart "confidential information" and become *liable* for damages through suit by the patient or his estate. Within the year several doctors have been sued and judgments rendered against them for having imparted this confidential information to insurance companies. A release will not protect you in court. You are warned to be careful in the answers you give.

Please impress upon all your members the imperative necessity of complying with the requests and recommendations contained in this communication.

By direction of the Council.

F. C. Warnshuis,
Secretary.

MEDICO-LEGAL ADVICE

To the Members of the State Society:

By direction of the Council this letter is being sent to you over the signature of the Chairman of the Medico-Legal Committee. You are urged to give it very careful attention and be guided by the recommendations herein contained. Your Medico-Legal Committee takes this opportunity of calling members' attention to the importance of X-ray and the necessity of procuring X-ray records in your practice. This is essential for your personal protection.

Unquestionably, the X-ray is one of the most important advances in medical and surgical diagnosis. Clinical experience or ability cannot substitute for the X-ray in your fracture practice. We wish, therefore, to impress upon every member for his own protection that whenever you are asked to treat any accident cases where there is any possibility that a fracture or a dislocation may be present, *you should insist upon an X-ray picture and record before you proceed with the care of the case.* This is extremely important due to the fact that you must be able to prove, in court if necessary, that you at least asked for a radiograph but were refused. Where you are refused an X-ray you should obtain and preserve a written statement to that effect. This statement should be dated, signed by the patient, signed by yourself, and in the presence of one or two witnesses who also attach their signatures to the statement. This statement should then be carefully preserved for future reference. In fact, it is recommended that you should decline to diagnose or treat any case where you deem X-ray pictures necessary for the proper care and treatment and in which your patient refuses to have an X-ray taken.

The X-ray should be used not only in the diagnosis of fractures but at least once after reduction to prove proper reduction, and then again when the case is discharged to prove the final result. It is also advised that several X-ray records be made during the course of treatment in order that you may show and be informed that position and anatomical reduction are being maintained.

The courts of the State of Michigan in almost every instance hold that a *doctor is guilty of malpractice* if he undertakes to treat a case, especially in fracture work, and, of course, where a bad result is obtained, without first obtaining X-rays to guide the treatment through to the end of the case. The X-ray should be used not only in the diagnosis of fractures but once at least soon after the reduction, to prove proper reduction, and preferably several times afterwards, to prove maintenance of reduction, and finally at close of treatment, to prove firm union. The professional man who has thus safeguarded himself need have no fear of suit. If the X-ray check shows a fracture which cannot be retained in good anatomical position, knowledge of this fact should enable the doctor to place upon the patient a responsibility for choice between the hoped for but uncertain result of useful function, and operative treatment, with its occasional hazards.

We have to defend every year one or more cases of unsuspected fractures where no X-ray has even been suggested. In several such cases it was a cultist who months later ordered a diagnostic X-ray. We have been able to successfully defend but one of these cases upon the theory that no better result could have been obtained even with proper diagnosis. Such a theory, however, would not hold true in most cases and is a poor substitute for treatment based on accurate diagnosis.

We have many suits brought as an offset to the doctor's suit for fees. Every doctor should know that the statute of limitations for adults is two years and should wait over two years before attempting to enforce collection.

In the event that suit should be threatened or papers actually served upon you, please be guided by the following course:

Do not engage any local attorney.

Do not discuss the case with anyone or any attorney. Pursue a course of absolute silence.

Report the threat of suit or the filing of papers to your local medical legal advisor of your county society, and also send a duplicate report with all the facts in the case to the Chairman of this committee, Dr. F. B. Tibbals, 410 Kresge Building, Detroit, Michigan. Then sit tight and be advised and governed by the instructions that will be promptly sent to you by Dr. Tibbals.

You may be sure that your local interest will be properly taken care of and that the defense of your case will have the expert supervision of the Society's attorneys.

Yours very truly,

F. B. Tibbals,
Chairman, Medico-Legal Committee.

SPECIAL REPORT OF THE MEETING OF THE JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION HELD IN ANN ARBOR, JANUARY 22, 1931

The midyear meeting of the Joint Committee was held in conjunction with the meeting of the Medical Council and the Secretaries of a number of County Medical Societies. Sixty-four members and guests were present at this meeting, which was presided over by President Ruthven, Chairman of the Joint Committee.

The two items which may be of special interest to all of the members of the speaking staff are the following: (a) the number and character of health education lectures given during the past year, and (b) the proposed new program of health work for the coming year.

The health program carried on under the direction of the Joint Committee, through the University Extension Division, gives evidence of a continued growth. During the past year the number of people served in connection with health lectures and other health activities was larger than for any previous year since the organization of the work. These health lectures may be classified in two ways: first, those which are assigned to Parent-Teacher Associations, luncheon clubs, and other similar organizations; and, second, those which are given in connection with high school assembly programs:

Number of doctors and dentists assigned for health lectures	166
Number of high schools in which assembly programs were given	122
Total number of health lectures given in connection with high school assembly and club programs	578
Number of different high school students who heard from two to five health lectures	40,000
Total aggregate attendance upon health lectures	150,000

During the current year a special committee was appointed by the State Department of Public Instruction to draft a course of study in health for schools of the State. This committee extended to the Joint Committee an invitation to coöperate in the carrying out of this program next year. Mr. A. W. Thompson, official representative of the State Department, stated that his department would welcome the coöperation of the Joint Committee in connection with their proposed health instruction, as outlined by the course of study. The proposed plan of coöperation was approved by the Joint Committee. This new type of work will make possible a very considerable expansion of the activities of the Joint Committee. It is not only a step that promises important results in health education, but it is especially interesting in that it is the first instance in this country where a coöperative effort has been entered into between a State Department of Public Instruction, a State Board of Health, and an organization such as that represented by the Joint Committee.

The following special committee was appointed to work out a suitable coöperative program for next year in connection with the proposed plan: Dr. C. A. Fisher, Extension Division; A. W. Thompson, State Department of Public Instruction; Miss Marjorie Delavan, State Department of Health; Dr. James D. Bruce, representing the State Medical Society; and Dr. W. R. Davis, Secretary of the State Dental Society.

Details of the proposed plan will later on be sent to the doctors and dentists of the State, whose coöperation is earnestly desired.

Yours sincerely,
W. D. Henderson, *Secretary*,
Joint Committee.

COMMITTEE REPORT

The Civic and Industrial Relations Committee of the Michigan State Medical Society held a dinner meeting in Detroit at the Wayne County Medical Society club rooms, January 19th, at 6:00 P. M. At this meeting the question of health and accident claim blanks was extensively discussed by every member present, only one of the committee being absent. Three guests attended—Dr. J. M. Robb, President of the Wayne County Medical Society; Mr. William Burns, Executive Secretary of the Wayne County Medical Society; and Dr. C. M. Brainard, representing the Michigan Association of Industrial Physicians and Surgeons.

It was the unanimous opinion of the committee that members of the Michigan State Medical Society should conform to the resolutions as passed by the House of Delegates at both the Jackson and St. Joseph-Benton Harbor meetings. It was believed that if the committee could interest certain of the larger insurance companies in adopting the policy of paying physicians for filling out report blanks, that there would be little difficulty in getting the other companies to follow the same plan. There would be no better advertisement for an insurance company than to adopt this policy, for it would encourage every physician in the state to advise his patients that they should carry insurance in those companies which provided a fee to the physician for filling out blanks. At a meeting to be called early in February with the representatives of the insurance companies, it is expected that a suitable plan will be adopted to the satisfaction of all concerned.

The committee also discussed other problems coming within their jurisdiction, such as the proposed automobile insurance law, violations of the Medical Practice Act in factory clinics and a proposed fee schedule. The fee schedule matter was laid on the table.

The meeting adjourned at 10:30 P. M.

THE RATE OF HEALING OF ELECTROSURGICAL WOUNDS AS EXPRESSED BY TENSILE STRENGTH

John D. Ellis, Chicago (*Journal A. M. A.*, Jan. 3, 1931), states that only 60 per cent of the electrically produced skin wounds showed primary union in comparison with 97.5 per cent of primary union in the control scalpel wounds, which indicates the futility of expecting primary skin healing in a fair percentage of electrical wounds. When union did occur, the wound was somewhat weaker than in corresponding scalpel wounds, and in the case of heavy dehydration did not attain a strength equal to the scalpel wound in twenty-one days. The stomach and muscle incisions electrically produced show the same percentage of primary union as the scalpel wounds. The electrically produced stomach wounds are notably weaker at about the midpoint of healing. The electrically produced muscle wounds are of almost equal strength with the scalpel wounds through the entire healing period. While these observations do not argue against the employment of the electrosurgical knife for making surgical incisions when clear-cut indications for its use present themselves, this method cannot be considered as a practical substitute for the scalpel for routine use.

Minutes of the Mid-Winter Session of the Council *of the* Michigan State Medical Society, January 21, 1931

The Council held its mid-winter session at the Michigan Union, Ann Arbor, on January 21, 1931. Chairman Corbus called the Council to order at 2:00 P. M. with the following councilors present:

B. R. Corbus, chairman; Henry Cook, vice chairman; Henry R. Carstens, A. S. Brunk, J. E. McIntyre, George C. Hafford, C. E. Boys, T. F. Heavenreich, Julius Powers, O. L. Ricker, Paul R. Urmston, Geo. L. Le Fevre, Richard Burke, B. H. Van Leuven, J. D. Bruce, C. A. Neafie; Carl Moll, president-elect; J. H. Dempster, editor; F. B. Tibbals, chairman Medico-Legal Committee; F. C. Warnshuis, secretary.

I. The Chairman of the Council reported the illness of Dr. Stone, for which reason he was unable to attend the present session. On motion of Cook-Urmston, good wishes for an early and complete recovery were sent to President Stone.

II. On motion of Le Fevre-Ricker, the minutes of the Executive Committee, as published in the Journal, were approved and made part of the records of the Council.

III. The Chairman announced the following standing committees of the Council to whom the several reports that are being made at this session were to be referred for review and recommendation:

Finance: George L. Le Fevre, Chairman, Paul R. Urmston, George C. Hafford.

County Societies: C. E. Boys, Chairman, T. F. Heavenrich, O. L. Ricker.

Publication: J. D. Bruce, Chairman, A. S. Brunk, B. H. Van Leuven.

IV. The Secretary presented the following as his annual report for 1930:

SECRETARY'S ANNUAL REPORT

To the Council
Michigan State Medical Society:

Gentlemen:

Your Secretary submits to you and through you to the membership, the following report for the year 1930.

Finances

Appended hereto is the auditor's financial statement and certification of the finances of the Society. Attention is directed to the following features of our financial condition:

(a) Our net profit for the year is $2,516.25

(b) Our advertising income is the largest in our history—$9,180.65, a gain of $983.22 for the year

(c) Receipts from dues were $20,214.75, exceeding any previous year. There are 250 members whose dues are unpaid

(d) The auditors have appraised a market loss of $4,614.55 on our bonds. This is but a paper loss as all our bonds are of A A and A A A rating and due to go to par or above as soon as our national financial depression disappears.

(e) We have underwritten our History expense, which will return to us approximately $1,500 when our sales are completed.

(f) Though we have issued a larger Journal with increased subscribers our Journal cost us $2,108.87 less than in 1929. This is due to the securing of a new contract for publication.

(g) Society expenses were increased by greater Council expenses, entertainment of the American Medical Association and increased expense of our Annual Meeting.

Considering the financial conditions of today and our increased activities, creating increased expenses, it is with pardonable pride that we cite these financial factors.

BUDGET

The following budget is submitted for 1931:

Estimated Income	
3,450 Members' dues at $10.00	$34,500.00
Interest Earnings	1,500.00
Reimbursements about	1,500.00
	$37,500.00
Expenditures	
Medical Defense—3,450 at $1.50	5,175.00
Journal Subscriptions—3,450 at $2.50	8,625.00
Rent, Light, Telephone, Power	1,800.00
Annual Meeting	1,000.00
Post Graduate Conferences	3,000.00
Legislative Committee	1,000.00
Printing and Postage	500.00
Council Expense	1,500.00

Joint Committee on Public Health	1,000.00
Delegates to Am. Medical Association	750.00
Stenographic and Clerical Help	3,000.00
Secretary's Salary	6,500.00
Committee Expenses	500.00
Contingent for Society Expense	3,150.00
	$37,500.00

JOURNAL BUDGET

Income

Subscriptions	$ 8,700.00
Advertising	8,500.00
	$17,200.00

Expenses

Printing and Mailing	$11,500.00
Editor's Salary	3,500.00
Editor's Expense	900.00
Contingent	1,300.00
	$17,200.00

The Journal

Our Editor is to be congratulated for the excellence of our Journal. No charge has been made against the Journal account for the business management contributed by your Secretary. These business details are demanding constant supervision and are concerned with printing, mailing, advertising and editing that portion of the Journal devoted to Society Activity. We have been fortunate in increasing our advertising revenue and decreasing the cost of publication and mailing.

Medical History

It is a matter of gratification that our Michigan Medical History is completed and published. Praise and appreciation cannot be too great for Dr. C. B. Burr. He has written a history that has been appraised to a high degree by many state and national reviewers. It is a noble achievement.

As yet we are unable to determine its cost. There are on hand 750 sets. Every effort is being made to sell them. Until they are disposed of no financial accounting is possible.

Post Graduate Work

In a review of post graduate work done by state medical societies, published by the University of Virginia, Michigan is accorded credit as being the first state society to recognize this organizational responsibility and institute such a program. In the same publication in commenting upon the scope and extent of its program, Michigan and New York head the lists. This is very gratifying and in part compensates for the work that has been done as well as justifying our vision advanced some twelve years ago. We cannot rest on these laurels. There remains much to be accomplished.

Our cordial relationship and co-activity with the Post Graduate Department of our University is making our present program possible. The State University is a material factor in advancing our efforts toward an all-year post graduate school and classified courses. Indebtedness is acknowledged to those who participated in the conference programs and also to the Couzens Children's Fund.

During the year five conferences were held. Speakers have been provided for county society programs. The four weeks intensive course in Detroit was attended by thirty-seven members. The year's expenditures were $1,195.31. The administrative details and work have been time-consuming but are imperative for successful accomplishments.

This organizational activity may be appraised as being the foremost organizational function of our Society. The policies instituted, the governing and guiding direction of the Council and the supervision exercised have been approved by the House of Delegates.

The assurance may be well extended that the work of post graduate instruction will be energetically advanced during the coming year.

Joint Committee on Public Health Education

Your representatives and Secretary have actively joined in this important educational program—a well recognized obligation of the State Medical Society. The report published in the July Journal imparts that during the year 154,616 lay people heard the truths of scientific medicine. We are indebted to the Extension Division of our State University for its valued assistance.

The desire is expressed that County Societies evidence greater interest and wider sponsorship for this public educational movement.

County Societies and Councilor Districts

On December 31, 1930, members in good standing numbered 3,417. A loss of 38 over 1929. There are 250 unpaid dues for 1930. The following County Societies represent our membership affiliations:

COUNTY	1929	1930	LOSS	GAIN	DEATHS
Alpena	16	16			
Antrim-Charlevoix-Emmet-Cheboygan	14	23		9	
Barry	12	12			1
Bay	64	62	2		1
Berrien	42	44		2	
Branch	7	11		4	

Calhoun	124	117	7		4
Cass	8	10		2	1
Chippewa-Mackinac	15	15			
Clinton	18	15	3		1
Delta	22	20	2		
Dickinson-Iron	18	18			1
Eaton	20	20			1
Genesee	136	134	2		2
Gogebie	26	25	1		
Grand Traverse-Leelanau	26	27		1	1
Gratiot-Isabella-Clare	20	27		7	1
Hillsdale	20	20			
Houghton	42	39	3		
Huron	10	9	1		
Ingham	95	98		3	3
Ionia-Montealm	36	39		3	2
Jackson	76	77		1	1
Kalamazoo-Van Buren-Allegan	116	111	5		3
Kent	195	201		6	4
Lapeer	16	19		3	1
Lenawee,	35	34	1		
Livingston	15	12	3		
Luce	10	9	1		
Macomb	38	39		1	
Manistee	12	13		1	
Marquette-Alger	38	34	4		
Mason	10	11		1	
Mecosta	20	19	1		
Menominee	11	12		1	
Midland	7	8		1	
Monroe	34	35		1	
Muskegon	67	68		1	
Newaygo	11	10	1		
Oceana	8	8			1
Oakland	108	104	4		
OMCORO	10	11		1	
Ontonagon	6	7		1	
Ottawa	25	26		1	1
Saginaw	68	72		4	2
Sanilae	6	6			
Schoolcraft	5	5			
Shiawassee	30	39			1
St. Clair	48	44	4		
St. Joseph	15	17		2	
Tri	21	18	3		
Tuscola	25	25			
Washtenaw	120	111	9		2
Wayne	1458	1420	38		16
	3455	3417	95	57	51
	3417		57		
	38		38		

At our last annual meeting the House of Delegates created two new Councilor Districts. This reapportionment gave Wayne County two members on the Council—a well merited representation.

Appended to this report are the Councilors' reports for their respective districts. There are contained therein interesting facts that deserve extended study and indicate avenues for work. Your Secretary purposes to present a classified survey in a subsequent report.

For the present it may be asserted that our component county units are functioning in a commendable manner. Several county societies are most aggressively active and are engaged in the furtherance of their organizational objectives with zeal and zest. There are certain counties that are merely drifting along. It is pertinent to reiterate that a county society will be a "drifter" just as long as its members refrain from contributing personal time and labor.

Your Secretary has visited every county society that sent an invitation and is ever ready to respond to these requests.

Surveys

Your Secretary was instructed to again repeat the survey of the profession of the state made five years ago. This has not been done for the very reason that the demands upon this office have been so great that this added work could not be crowded in. Such a re-survey is important. It should be accomplished in 1931. Your Secretary requests authority to employ additional clerical assistance for two months to accomplish this survey.

Annual Conference of County Secretaries

Much good results from these conferences. The 1930 conference was held at the American Medical Association headquarters in Chicago. A complete transcript of its minutes was published in the Journal. The 1931 conference will be held in Ann Arbor on January 22, 1931, and its minutes will be published in an early issue of the Journal.

Filing System

As authorized by the Council a new filing system was installed at a cost of about $1,500.00. This is a flexible accumulating system that will permanently preserve our records and documents for all time. It will ever serve as a historical reference pertaining to medical life and organizational work in Michigan.

Legal Defense

The financial statement reveals a reserve fund of $19,394.06.

Annual Meeting

Pontiac was designated by the House of Delegates as the place for holding our 1931 annual session. The dates recommended are September 22, 23, 24, 1931. Your Secretary has been in conference with the Oakland County Society. Committees are now engaged in planning and perfecting local arrangements. It will be remembered that this is the 100th Anniversary of the organization of the Oakland County Medical Society. Your Secretary feels certain that by reason of proposed anniversary features

this will be a most outstanding annual session. Announcement of these features and of the program will appear from time to time in The Journal as plans are perfected.

President's Badge

Your Secretary has been directed by the Council to secure a suitable badge for our presidents. This badge to be retained by the president when his term of office expires. Designs are being submitted for the Council's selection and approval.

Deaths

In profound respect, with a deep realization of their contributions to our communal life and with sacred comforting memories we enroll the names of the following departed members:

State Commissioner of Health

The Society is continuously endeavoring to subscribe its influence and assistance to Dr. Slemons, State Commissioner of Health. A harmonious relationship exists. Jointly we are endeavoring to make available to the people a health service that is efficiently protective.

Correspondence

Unless one is in intimate contact with this office it will be extremely difficult to appreciate the voluminous correspondence and clerical work that demands an increasing amount of time and labor. It is impossible to impart the volume in words. The following figures impart a partial insight.

NAME	CITY	COUNTY
Brown, Carl K.	Nashville	Barry
Gustin, Smith E.	Bay City	Bay
Gallagher, Robert V.	Battle Creek	Calhoun
Hubley, Charles G.	Battle Creek	Calhoun
Kingsley, A. Floyd	Battle Creek	Calhoun
Stegeman, Louie E.	Battle Creek	Calhoun
Planck, E. E.	Dowagiac	Cass
Hart, Eugene	St. Johns	Clinton
Cruse, S. Edwin	Iron Mountain	Dickinson-Iron
Long, F. H. M.	Eaton Rapids	Eaton
Merritt, C. V.	Flint	Genesee
Wright, Albert G.	Fenton	Genesee
Munson, J. D.	Traverse City	G. Traverse-Leelanau
Street, E. L.	Wheeler	Gratiot-Isabella-Clare
Huntley, V. F.	Lansing	Ingham
North, Edward P.	Holt	Ingham
Owen, John S.	Lansing	Ingham
Alton, Robert W., Sr.	Portland	Ionia-Montcalm
Beckwith, E. F.	Ionia	Ionia-Montcalm
Stewart, C. E.	Jackson	Jackson
Beebe, R. P.	Kalamazoo	Kalamazoo
Hanaway, Nellie	Kalamazoo	Kalamazoo
Mater, Elmer L.	Dowagiac	Kalamazoo
Conroy, E. J.	Grand Rapids	Kent
Tuttle, S. Porter	Grand Rapids	Kent
Vis, Edward W.	Grand Rapids	Kent
Wolford, Curtis	Grand Rapids	Kent
Kay, Wm. J.	Lapeer	Lapeer
Buskirk, J. D.	Shelby	Oceana
Vander Veen, Arend	Grand Haven	Ottawa
Slack, W. L.	Saginaw	Saginaw
Williamson, Thomas M.	Saginaw	Saginaw
Fair, Robert C.	Durand	Shiawassee
Herdman, E. K.	Ann Arbor	Washtenaw
Hickey, Preston M.	Ann Arbor	Washtenaw
Boyer, John S.	Detroit	Wayne
Byrd, Hirman	Detroit	Wayne
Cook, Henry H.	Detroit	Wayne
Delbridge, J. D.	Detroit	Wayne
Dretzka, L. J.	Detroit	Wayne
Drouillard, Alfred C.	Wyandotte	Wayne
Foley, Charles J.	Detroit	Wayne
Hale, George F.	Detroit	Wayne
Harper, Wm. A.	Detroit	Wayne
Kiefer, Guy L.	Detroit	Wayne
MacGhee, Charles M.	Detroit	Wayne
McManus, J. M.	Detroit	Wayne
Rogers, Wm. H.	Detroit	Wayne
Sibley, C. P.	Detroit	Wayne
Silver, Maxwell E.	Detroit	Wayne
Sipe, George K.	Detroit	Wayne

Individual letters received and answered	5,000
County Society Reports received and answered	1,200
Notices of Meetings and Conferences	14,000
Committee Notices and Meetings	2,500
Membership certificates, endorsements and mailing	4,000
Advertising correspondence, proofs, and printers' instructions	2,000
American Medical Association correspondence	500
Journal correspondence, change of address	3,000
Minutes of Executive Committee, notices and council notices	500
Annual Meeting program arrangements and local details, including commercial and scientific exhibits	1,000
Out of state correspondence and inquiries	500
Accounts payable and receivable	1,000
Annual average pieces of mail	55,200

This is a conservative average and does not include circulars, cards and Journals received. The time consumed in handling this correspondence averages about five hours per day of your Secretary's time.

In addition to the above this office has its bookkeeping work, which is concerned with the following individual accounts:

Membership dues
Advertising accounts
Journal expense
Medical Legal Defense
Joint Committee on Public Education
Michigan Children's Fund
History Account
Investment Account
Council and Society Expense
Post Graduate Conference
Annual Meeting Expense
Committee Expenses
Bank Account
General Statement

This entails additional consumption of clerical time.

The handling of dues alone requires ten individual acts:

1. Receipt
2. Entrance in Ledger
3. Deposit
4. Mailing receipt to county secretary
5. Entrance on member's record card
6. Distribution to Journal, Medico-Legal and Society accounts
7. Making out members' certificates
8. Addressing and mailing certificates
9. Checking mailing list
10. Reporting to American Medical Association

In addition your Secretary receives all county society meeting and committee reports, edits them and then sends these to the publishers, supervising the Society Activity Department of the Journal.

All these details are constantly under your Secretary's direction. They impart in part the scope of office activity and are recorded for informative purposes.

Comment

The foregoing imparts a general synopsis of our organizational work. Each activity has received frequent extended comment from time to time in The Journal. The actions of the Council and the Executive Committee have likewise been given extended Journal publicity. Committee activity has been reported in detail to the House of Delegates.

An analysis of the year's work justifies the declaration that our Society is an aggressive, achieving organization. It merits the confidence and support of our members. It is intensely concerned with the personal interests of each member and the welfare of the entire profession. It is on the job constantly.

And yet we have not reached the ultimate goal. There is still much to be done. In order that 1931 may record further progress and the enhancement of membership affiliation, your Secretary, in compliance with our by-laws, respectfully recommends:

1. The completion of the survey that will indicate the distribution of Michigan physicians.

2. A definite schedule of public meetings in each county, sponsored by the County Society and conforming to the plan of the Joint Committee on Public Health Education. In conjunction with the State Department of Health it is important that we extend health education to the public.

3. A series of clinics or conferences, conducted at central regional points, that are devoted to demonstrating, prophylactic health measures and instructing our members as to how to definitely render such preventive services to their clientele. Our members are overlooking these opportunities and need inspiration and instruction in order that they may avail themselves of the returns obtainable from this type of professional service.

4. The appointment of a special committee of nine to be known as the Committee on Medical Service. The duties of this committee to be to gather information and data on clinical services. Secondly, to formulate a plan whereby County Societies or groups of societies may establish centralized clinics that shall render medical services to the indigents and to those who are unable to assume the full financial burden of their medical care. These individuals are able to

accept partial responsibility but under present conditions they are wholly relieved and obtain free services at charity clinics. The profession is deprived of this income, which by profesionally operated clinics can be made to return a desirable annual income to our members. Our state society should assume to solve this clinic problem. It is being done in other states. Wayne County has given much thought to the subject. The Council may well create such a Committee and refer its findings to the House of Delegates.

Your Secretary is profoundly grateful for the assistance, courtesies and kindness accorded to him during the past year. It has been a privilege to serve.

Respectfully submitted,
F. C. Warnshuis,
Secretary.

COUNCIL EXPENSES—1930

January		
B. R. Corbus	$ 30.80	
Henry Cook	49.25	
F. C. Warnshuis	100.00	
		$180.05
February		
Henry Cook	$ 50.48	
J. D. Brook	8.84	
J. H. Charters	33.42	
Theodore Heavenrich	48.90	
Geo. Le Fevre	150.00	
John R. Roger	38.00	
P. R. Urmston	108.03	
B. H. Van Leuven	79.80	
		517.47
March		
R. A. Burke	$ 50.00	
B. R. Corbus	66.45	
		116.45
May		
B. F. Green	$ 53.64	
University of Michigan Union	23.00	
		76.64
June		
F. C. Warnshuis	$ 26.25	
J. D. Bruce	128.06	
		154.31
September		
B. R. Corbus	$ 73.50	
R. A. Burke	50.00	
		123.50
November		
F. C. Warnshuis	$ 50.00	
B. F. Green	10.50	
Henry Cook	37.52	
George Le Fevre	160.00	
		258.02
December		
Hotel Statler	$ 62.33	
R. C. Stone	257.95	
R. C. Stone	43.95	
Henry Cook	4.50	
		368.73
Total		$1,795.17

DELEGATES TO AMERICAN MEDICAL ASSOCIATION EXPENSES—1930

July		
J. D. Brook	$ 72.48	
C. S. Gorsline	46.45	
A. W. Hornbogen	125.26	
		$244.19
August		
Carl F. Moll	$ 44.00	
		44.00
Total		$288.19

JOURNAL EXPENSE—1930

January		
Register of Copyrights	$ 2.00	
Postage	25.00	
A. P. Johnson Co.	1,003.90	
Addressograph Co.	1.54	
		$1,032.44
February		
A. P. Johnson Co.	$ 874.30	
Science Service	24.00	
		898.30
March		
Register of Copyrights	$ 2.00	
Postage	20.00	
A. P. Johnson Co.	1,299.53	
Addressograph Co.	4.91	
		1,326.44
April		
Register of Copyrights	$ 2.00	
Bruce Publishing Co.	964.28	
A. P. Johnson Co.	64.56	
Addressograph Co.	2.75	
Western Union	1.41	
		1,035.00
May		
Register of Copyrights	$ 2.00	
Bruce Publishing Co.	864.52	
		866.52
June		
Register of Copyrights	$ 2.00	
Bruce Publishing Co.	764.48	
		766.48
July		
Register of Copyrights	$ 2.00	
Bruce Publishing Co.	705.36	
Addressograph Co.	9.78	
		717.14
August		
Addressograph Co.	$ 3.47	
Bruce Publishing Co.	896.24	
		899.71
September		
Register of Copyrights, Aug. and Sept.	$ 4.00	
Bruce Publishing Co.	689.92	
		693.92
October		
Register of Copyrights	$ 2.00	
Bruce Publishing Co.	682.43	
		684.43
November		
Register of Copyrights	$ 2.00	
Bruce Publishing Co.	1,122.45	
		1,124.45
December		
Register of Copyrights	$ 2.00	
Bruce Publishing Co.	868.06	
		870.06
		$10,914.89
Credits for cuts		202.11
Total Expense		$10,712.78

LEGISLATIVE COMMITTEE—1930

February		
O. L. Ricker	$29.55	
John Sundwall	34.64	
		$64.19
June		
John Sundwall	$83.62	83.62
October		
A. P. Johnson Co.—Printing	48.55	48.55
November		
Wayne County Medical Society	46.20	46.20
December		
J. B. Jackson	16.29	16.29
Total Expense		$258.85

MEDICO-LEGAL DEFENSE—1930

	DEBITS	CREDITS
Balance from 1929		$4,561.42
Dues paid in 1929 for 1930		206.00
Change in adjustment of dues for 1930	$ 68.50	
January		
Douglas-Barbour-Moll & Wing	500.00	
F. B. Tibbals	500.00	
Dues Paid		109.00
Certificates of Deposit—Cashed		2,000.00
Interest on Certificates of Deposit		60.00
Interest on General Motors Bond		25.00

February		
Interest on Bonds	1.11	
Bond Purchased	1,990.00	
Douglas-Barbour-Moll & Wing	331.45	
Dues Paid		1,291.50
March		
Bond Purchased	1,925.00	
Interest on Bond Purchased	8.89	
Dues—Paid Twice	1.50	
Dues Paid		1,069.50
April		
Penny & Worcester	50.55	
Douglas-Barbour-Moll & Wing	151.10	
Dues Paid Twice	3.00	
F. B. Tibbals—Stamps	3.00	
Dues Paid		1,472.25
May		
Douglas-Barbour-Moll & Wing	153.00	
Dues Paid		252.00
June		
Douglas-Barbour-Moll & Wing	387.25	
Interest	8.34	
Dues Paid Twice	1.50	
Dues Paid		387.75
Interest on Bonds		485.00
July		
F. B. Tibbals	500.00	
Douglas-Barbour-Moll & Wing	500.00	
Douglac-Barbour-Moll & Wing	617.90	
Dues Paid		90.00
Interest		27.50
August		
Douglas-Barbour-Moll & Wing	262.50	
Dues Paid		130.50
September		
Dues Paid		39.50
October		
Dues Paid		40.33
November		
Douglas-Barbour-Moll & Wing	1,572.90	
Dues Paid		4.50
Interest on Bonds		197.50
December		
Douglas-Barbour-Moll & Wing	375.00	
Interest and Profit on Sale of Bond	135.00	
Dues Paid		20.50
Interest on Bonds		90.00
Adjustment on Bonds Bought in March		90.00
Interest on Bonds—Unclipped Coupons		125.00
	$10,047.49	$12,774.75
		10,047.49
Cash on Hand December 30, 1929		$ 2,727.26
Bonds on Hand December 30, 1929		16,666.80
Total		$19,394.06

COUZENS FOUNDATION

Charges from 1929		$ 381.64
January		
Postage	$ 22.00	22.00
February		
A. P. Johnson Co.	19.45	19.45
April		
Alumni Press	7.50	
University of Michigan	14.70	
E. C. Davidson	50.00	
David J. Levy	50.00	
G. C. Penberthy	50.00	
		172.20
May		
Postage	$ 50.00	50.00
June		
A. P. Johnson Co.	32.25	32.25
October		
A. P. Johnson Co.	7.00	7.00
November		
E. C. Davidson	200.00	
T. B. Cooley	110.00	
David J. Levy	60.00	
G. C. Penberthy	170.00	
		540.00
		$1,224.54
Cash Received from Couzens Fund		$1,500.00
Expenditures		1,224.54
Cash on Hand		$ 275.46

POST GRADUATE CONFERENCE EXPENSE—1930

January	
R. R. Smith	$73.34
February	
O. L. Ricker	25.00
May	
George E. McKean	22.50
June	
A. P. Johnson Co.	27.40
September	
Theodore Bauer	204.17
	$352.41

SOCIETY EXPENSE

January		
Barlow Bros.	$ 19.50	
H. S. Collisi	55.27	
G. S. Gorsline	12.85	
H. W. Ten Broek & Sons	59.00	
Tisch Hine	1.10	
L. D. Calls	4.85	
Expenses Society Meeting	9.25	
Western Union	2.19	
Carleton Dean	26.40	
L. A. Davis	36.50	
J. Whalen	30.90	
W. E. Ward	30.50	
T. F. Foster	39.98	
K. M. Bryan	35.84	
J. F. Carrow	32.00	
C. E. Toshach	33.00	
L. M. Snyder	28.42	
B. Van Ark	26.40	
T. P. Treynor	30.00	
T. P. Wickliffe	58.00	
C. J. Addison	20.00	
G. F. Swanson	50.74	
T. Y. Ho	30.42	
H. B. Knapp	19.80	
J. N. Scher	38.62	
R. J. Douglas	23.14	
L. W. Switzer	28.74	
H. M. Best	31.51	
E. F. Sladek	42.95	
C. E. Neafie	32.12	
D. W. Finton	16.84	
S. M. Tweedie	39.70	
T. S. Langford	32.34	
D. P. Hornbogen	41.03	
The Drake Hotel	224.35	
Wm. J. Burns	39.97	
J. D. Brook	28.71	
		$1,312.93
February		
Register of Copyrights	$ 2.00	
I. Dempster	24.82	
Don Duffie	42.94	
A. P. Johnson Co.	20.43	
Master Reporting Co.	113.29	
F. G. Maloney	40.62	
W. B. Newton	44.44	
Tisch Hine	3.80	
F. R. Town	11.95	
L. D. Calls	15.85	
Western Union	3.39	
L. J. Schermerhorn	31.50	
Camera Shop	25.00	
		380.03
March		
Stonehouse Carting Co.	$ 2.04	
C. Hoffman	1.50	
I. D. Brook	26.22	
Stonehouse Carting Co.	1.96	
United States Postoffice	20.00	
Tisch Hine	11.18	
L. D. Calls	19.15	
Expenses—Detroit East Side Meeting	25.29	
Western Union	4.30	
Bixby Office Supply Co.	7.50	
O. R. Yoder	3.00	
A. P. Johnson Co.	36.26	
Book-Cadillac Hotel	51.40	
W. L. Finton	8.66	
Wm. Northrup	14.49	
Ex. Committee and Section Officers	55.30	
Mercy Hospital	10.00	
Floyd R. Town	7.00	
Carl F. Snapp	14.73	
Expenses Lansing—Reorganization	7.57	
		327.55
April		
I. D. Brook	$ 20.39	
Long Distance	5.80	
Remington Rand	857.40	
Tennessee State Medical Society	3.00	
H. V. Barbour	10.00	
		896.59
May		
A. F. Crabb	$ 10.36	
Ernst & Ernst	173.65	
A. P. Johnson Co.	24.75	

Remington Rand	1.00	
Taylor's Inc	6.15	
Tisch Hine	1.05	
Western Union	3.11	
L. D. Calls	2.10	
Hillsdale Meeting	26.00	
Kiefer Funeral	31.48	
J. D. Brook	97.00	
Floyd Town	7.00	
		383.65
June		
Tisch Hine	$ 3.86	
A. F. Crabb	15.58	
A. P. Johnson Co	34.15	
L. D. Calls	11.50	
Western Union	42.47	
Frank Van Amburgh	85.00	
American Medical Assn.—Banquet	200.00	
Detroit Yacht Club	800.00	
		1,192.56
July		
John S. Haggerty	$ 12.00	
A. P. Johnson Co	2.20	
Master Reporting Co	32.75	
Tisch Hine Co	7.95	
L. D. Calls	13.10	
Western Union	2.67	
Mrs. Betty Willet	36.00	
		106.67
August		
L. D. Calls	$ 2.35	
Western Union	3.53	
Ry. Express Agency	1.51	
		7.39
September		
Grand Rapids Trust Co	$ 5.00	
J. B. Jackson	36.18	
Bruce Publishing Co	3.65	
Forbes Stamp Co	1.25	
A. D. La Ferte	42.88	
A. P. Johnson Co	3.00	
Remington Rand	6.45	
Tisch Hine	2.38	
L. D. Calls	6.20	
Crippled Children's Conference—Detroit	33.37	
Western Union	2.18	
Hotel Vincent	162.00	
		304.54
October		
J. B. Jackson	$ 4.90	
A. P. Johnson Co	32.00	
E. A. Rood & Co	85.53	
Tisch Hine	15.20	
Western Union	6.29	
		143.92
November		
Bixby Office Co	$ 3.25	
Addressograph Co	5.73	
G. R. Insurance Co	125.00	
A. P. Johnson Co	274.01	
Taylors	15.30	
L. D. Calls—Sept. 23 to Oct. 4	16.90	
Western Union	2.70	
A. P. Johnson Co	18.69	
L. D. Calls—Oct. 24 to Nov. 12	7.85	
		469.43
December		
Western Union	$ 1.50	
C. E. Dutchess	22.50	
C. Hoffman	25.00	
Bruce Publishing Co	40.25	
Joint Committee	1,000.00	
		1,089.25
Total Expense		$6,614.51

JOINT COMMITTEE—1930

	DEBITS	CREDITS
Balance from 1929		$1,486.23
January		
Salaries	$ 183.33	
Neostyle	90.00	
Alumni Press	125.00	
Detroit News		80.00
Grand Rapids Press		202.50
February		
Salaries	183.33	
Don C. Lyons	58.00	
Michigan Hospital Assn.—for 1929		100.00
G. R. Press		90.00
Detroit News		50.00
March		
Salaries	183.33	
Michigan State Dental Society—for 1929		500.00
University of Michigan—for 1929		500.00
Detroit News		40.00
Grand Rapids Press		90.00
April		
Salaries	183.33	
Alumni Press	125.00	
Detroit News		50.00
Grand Rapids Press		112.50
May		
Salaries	183.33	
Alumni Press	8.75	
June		
Salaries	183.33	
W. D. Henderson	100.00	
G. R. Press		180.00
Detroit News		80.00
July		
Salaries	175.00	
Alumni Press	45.40	
Detroit News		50.00
Grand Rapids Press		112.50
August		
Salaries	175.00	
Alumni Press	3.75	
September		
Salaries	175.00	
W. D. Henderson	200.00	
Don C. Lyons	56.00	
Grand Rapids Press		180.00
Detroit News		40.00
October		
Salaries	175.00	
Detroit News		40.00
Detroit News		50.00
November		
Salaries	175.00	
Detroit News		40.00
December		
Salaries	175.00	
	$2,961.88	$4,073.73
		2,961.88
		$1,111.85
Contribution—Mich. State Medical Soc., Dec. 30, 1930		1,000.00
Balance on Hand—Dec. 30, 1930		$2,111.85

HISTORY EXPENSE

	DEBITS	CREDITS
June 22, 1927—C. B. Burr	$ 49.21	
February 3, 1928—C. B. Burr	138.92	
June 20, 1928—C. B. Burr	159.57	
February 20, 1929—C. B. Burr	181.47	
February 20, 1929—C. B. Burr	27.51	
October 20, 1929—C. B. Burr	625.62	
January—1930		
Miss S. Brown—Express	25.00	
Miss S. Brown—Return on Express		17.27
February		
J. H. Dempster	8.00	
C. B. Burr	683.25	
May		
Bruce Publishing Co	1,500.00	
July		
Bruce Publishing Co	11.85	
November		
W. E. Ward—Paid Twice	5.00	
Cash Received on Sales of Histories		2,285.05
	$3,415.40	$2,302.32
	2,302.32	
	$1,113.08	

EXPENSES—1930

Month	Editor	Editor's Expense	Office Rental	Postage	Reprint Expense	Secretary	Stenographers
January	$291.00	$71.70	$100.00	$15.00		$541.00	$160.00
February	291.00	77.65	100.00	45.00	$68.16	541.00	235.70
March	291.00	68.10	100.00		103.98	541.00	275.00
April	291.00	76.10	100.00	20.00	346.33	541.00	235.00
May	291.00	71.23	100.00		134.44	541.00	275.00
June	291.00	72.82	100.00	20.00	48.00	541.00	235.00
July	291.00	67.70	100.00	25.00	192.98	541.00	275.00
August	291.00	72.75	100.00	20.00	174.98	541.00	235.00
September	291.00	70.16	100.00	20.00	252.72	541.00	235.00
October	291.00	71.56	100.00	20.00	44.48	541.00	235.00
November	291.00	72.43	100.00	20.00		541.00	275.00
December	299.00	68.68	100.00	20.00	374.80	549.00	235.00
	$3,500.00	$860.88	$1,200.00	$225.00	$1,740.87	$6,500.00	$2,905.00

Memorandum—1931 Annual Session

1. On Monday evening, December 1, 1930, the State Secretary met with the general chairman and officers and a few members of the Oakland County Medical Society in Pontiac for the purpose of discussing plans for the 1931 annual session.

2. Five sub-committees on halls and hotels, entertainment, publicity, registration and Women's Auxiliary were recommended to the local society.

3. During the afternoon in company with Dr. Neafie, councilor and also secretary of the Oakland County Medical Society, we visited the various available buildings in Pontiac.

Masonic Temple.—We found the following rooms available:

Dining Room that will seat	400
Small lodge room	150
Wilson room	120
Blue Lodge room	400 to 450
Auditorium	1,000
Auditorium parlors approximately	100

There will also and will probably be available two street stores that will seat anywhere from 150 to 200. The lobby is very suitable for registration and information booths. There is a Y. M. C. A. office and headquarters off of the main lobby which possibly can be secured and this would seat in the neighborhood of 200.

The Masonic Temple is on the corner of Lafayette and Oakland Avenue.

The tentative rental price for the Masonic Temple was given for the three days as $390.00. The Board of Management of the Temple were to have a session and a request was to be made as to whether or not this rental price could be reduced. Of this we will be advised later.

Directly across from the Masonic Temple is the Baptist Church, which has an auditorium that will seat 900 people and a small room that will seat approximately 100.

Approximately a block and a half from the Masonic Temple and the Church is what is known as the First Baptist Tabernacle that will seat 2,200 people. The rental price for the Tabernacle is $35.00 and the rental for the First Baptist Church will be imparted by the committee at a later date.

It is the opinion of your Secretary and the local committee that the Masonic Temple and the First Baptist Church, directly across the street, will provide ample auditorium space for our meetings and our section meetings.

4. The tentative dates recommended by the local committee and also the Secretary of the local Chamber of Commerce were Tuesday, Wednesday and Thursday, September 22, 23 and 24.

5. *Hotels.*—An inspection was made of the several hotels. The Hotel Roosevelt, which is a first class hotel, will accommodate approximately 205. It has a banquet room that seats 400. This is approximately two blocks from the Masonic Temple.

The Heldenbrand Hotel has 100 rooms and will accommodate approximately that number of guests.

The Hotel Waldron has approximately 100 rooms, 70 of which are with bath and 12 of which are double rooms with twin beds and bath. It has six suites in which one of the rooms has twin beds and the other has a double bed. The Waldron will accommodate 70 guests, because they naturally reserve some rooms for their transient trade. The Hotel Waldron is an exceptionally well furnished and high class hotel. It was the recommendation of Dr. Neafie and the Secretary that this hotel be designated as headquarters for the officers, the council, invited guests and as many of the house of delegates as can be accommodated.

In reviewing the hotel situation it must be borne in mind that in 1931 we will not require as much hotel accommodations as we would in another meeting place because of the fact that doctors in Detroit, Flint and the neighboring towns will readily drive back and forth to the meeting place and require little if any hotel accommodations.

There is one outstanding objection to the hotel accommodations in Pontiac, in that all the rooms that are available, except with a few exceptions as noted above, are equipped with double beds and the hotel managements do not have any additional single beds or cots. It becomes quite apparent that as much as the doctors may object they will have to sleep two in one double bed. The rooms are, however, very comfortable, the beds are of good quality and are very excellently furnished.

In the Hotel Waldron there is a private dining room which can be utilized by the Council for its meeting, luncheon and dinner, seating approximately 30.

In the matter of dining room facilities none of the hotels have a regular dining

room, but they are all equipped with cafeterias. The Hotel Waldron will, however, give room service for breakfast. It is the opinion of Dr. Neafie and your Secretary that, while some complaint will arise as the result of the double beds, the hotel accommodations will be quite satisfactory.

6. It is to be remembered that our 1931 meeting will witness the 100th anniversary of the Oakland County Medical Society. Your Secretary was profoundly impressed with the plans and objectives of the local society for the celebration of their 100th anniversary. They are most commendable and merit the whole-hearted support of the State Society to bring about their fullest consummation.

On Sunday of the week they purpose holding a public church service in which the truths of scientific medicine and public health conservation will be stressed by selected speakers. During the entire week they purpose having extended exhibits in one large church. These exhibits to consist of educational features regarding health, the prevention of disease, the prolongation of life, the care of the child, communicable diseases, exposure of quackery, medical education and public health activity. During these exhibits at a stated time each day, during the week, the local committee has arranged for a public meeting at some convenient hour during the day which will be addressed by selected speakers who will be assigned suitable health and medical subjects. Arrangements have been made for trained attendants, from the local and the Detroit health department, to be in attendance at these several exhibits and explain and demonstrate to the visiting public. Extended local publicity is to be secured through the local press, bulletins and church and school announcements.

On the last day of our meeting, that is on the twenty-fourth, the local committee has arranged for a public meeting in the Tabernacle, with Dr. Fishbein to address that audience upon the progress of medical science and that which scientific medicine is accomplishing. Through arrangements with the health department and the departments of education, covering the schools of the county, the local society has set aside the sum of $300.00 for prizes. These prizes are to be given to the teacher, the high school student and the grammar school student who presents, within thirty or sixty days, the best essay reflecting the main points of Dr. Fishbein's address and the achievements that modern medicine is accomplishing. This will arouse intense public interest and it will be observed that it will exercise a health influence upon all the people of Pontiac and Oakland County. This may be designated as one of the finest gestures ever made by any of our county societies.

It is the request and desire of the local committee that for the general meeting of the society, to be held on Wednesday, the twenty-third, in the evening, in addition to the President's annual address the State Society secure an outstanding national speaker who will also address the members, as well as the invited public, in the Tabernacle. In the event, however, that the Council does not approve and the President does not concur in this suggestion, the general meeting of the Society on Wednesday evening will be held in the main auditorium of the Baptist Church.

Entertainment.—An attempt was made to impress the local committee that a minimum form of entertainment is desired. They, however, will provide for the Women's Auxiliary and the visiting ladies as well as giving club privileges to all those who desire to play golf. They would, however, like to tender to the officers, delegates and those members who may be present, a dinner on the first day, the 22nd, between the second and third sessions of the House of Delegates. This to be in the nature of a centennial celebration and will be followed by one or two brief talks on Oakland County medical activities. They also have the desire to tender an informal smoker following the last session of the House of Delegates on the evening of the twenty-third. This constitutes the plan of entertainment.

It will be observed that the foregoing general and tentative schedule and program promises to cause our 1931 meeting to attract state-wide attention and should make it one of the most successful the Society has ever had.

These plans, of course, will be submited to the Council at its January, 1931, meeting, for approval, and after approval further details of the program and scientific features will be worked out with the local committee by your State Secretary.

AUDIT REPORT

MICHIGAN STATE MEDICAL SOCIETY

FISCAL YEAR ENDED DECEMBER 29, 1930

January 15, 1931

To the Council of the Michigan
State Medical Society,
Dr. F. C. Warnshuis, Secretary,
Grand Rapids, Michigan.

Gentlemen:

We have examined the accounts of the Michigan State Medical Society for the fiscal year ended December 29, 1930.

The purpose of our investigation was to verify the financial position of the Society at the date named and to make a test check of the recorded cash transactions and a review of the operating accounts for the year then ended. We did not, however, make a detailed examination of all of the cash and operating accounts for the year. To the extent of the tests made by us, the records were found to be in order.

A balance sheet is included herein which, in our opinion, shows the financial position of the Society as of December 29, 1930, on the basis outlined in this report. The following affords a comparison of the assets and liabilities at the beginning and end of the year.

A statement of income and expense setting forth the revenue and expenses for the year ended December 29, 1930, in comparison with the preceding year, is included elsewhere in this report. We made tests of the operating accounts, compared them with figures shown in prior years and investigated all large differences. It is our opinion, based on the tests made, that the operating accounts have been correctly set forth in the statement aforementioned. During the previous year, 20 per cent of the annual membership fees collected was allocated to the legal defense fund, whereas during 1930 only 15 per cent was so allocated and 85 per cent was credited to Society dues.

The scope and nature of our examination in connection with the verification of the assets and liabilities of the Society at December 29, 1930, and the basis on which they have been stated in the accompanying balance sheet, are outlined in the following comments:

Assets	Dec. 29, 1930	Dec. 27, 1929	Increase Decrease
Cash			
On deposit	$ 380.74	$ 740.64	$ 359.90
Certificates of deposit		2,000.00	2,000.00
Total Cash	$ 380.74	$ 2,740.64	$2,359.90
Accounts Receivable			
Advertisers' accounts	$ 1,152.33	$ 1,094.50	$ 57.83
Subscriptions for medical history	760.00		760.00
	$ 1,912.33	$ 1,094.50	$ 817.83
Less allowance for doubtful	250.00	250.00	
	$ 1,662.33	$ 844.50	$ 817.83
Children's Fund of Michigan	1,500.00		1,500.00
Couzens Foundation		381.64	381.64
Total Accounts Receivable	$ 3,162.33	$ 1,226.14	$1,936.19
Bonds Owned—at cost	$46,075.55	$40,540.55	$5,535.00
Less allowance to reduce to market value	4,614.55		4,614.55
	$41,461.00	$40,540.55	$ 920.45
Unclipped coupons	150.00	25.00	125.00
Total Bonds Owned	$41,611.00	$40,565.55	$1,045.45
Contract—for medical history	4,500.00		4,500.00
	$49,654.07	$44,532.33	$5,121.74
Liabilities			
Accounts Payable			
Bruce Publishing Company	$ 1,500.00		$1,500.00
Joint Committee	2,111.85	$ 1,486.23	625.62
Couzens Foundation	1,775.46		1,775.46
Prepaid memberships		1,030.00	1,030.00
Advances made for reprints	51.00	167.88	116.88
Total Accounts Payable	$ 5,438.31	$ 2,684.11	$2,754.20
Reserves			
For legal defense	$19,394.06	$19,428.22	$ 34.16
For medical history	4,500.00		4,500.00
Total Reserves	$23,894.06	$19,428.22	$4,465.84
Net Worth	20,321.70	22,420.00	2,098.30
	$49,654.07	$44,532.33	$5,121.74

Cash on deposit was verified by direct correspondence with the depositary bank and reconcilement of the balance reported by it with the amount shown in the balance sheet. We compared the recorded cash receipts for several months with the deposits shown by the bank statements on hand in the Society's files. We examined canceled checks, invoices and other data in support of the cash disbursements for several months and found all items tested to be properly supported.

Accounts Receivable were found to be in agreement with a trial balance of the individual accounts at December 29, 1930. No verification of these accounts was made by correspondence with the individual debtors. The amounts shown as due from advertisers were analyzed as to date of charge and are set forth in comparison with those at December 27, 1929, in the following summary:

	December 29, 1930		December 27, 1929	
DATE OF CHARGE	AMOUNT	PER CENT	AMOUNT	PER CENT
December	$ 738.17	64%	$ 600.00	55%
November	32.25	3	62.75	6
October	21.50	2	44.75	4
July, August and September	36.00	3	220.25	20
Six months ended June 30th	206.41	18	50.50	5
Prior to January 1st	118.00	10	116.25	10
Total	$1,152.33	100%	$1,094.50	100%

The subscriptions for medical history represent largely the price of the second volume, which was delivered to subscribers during December, 1930. Based upon our analysis and conference with your Secretary, it is our opinion that the allowance in the amount of $250.00 is adequate to care for any loss from uncollectible accounts anticipated at December 29, 1930.

The amount shown as due from the Children's fund of Michigan represents a donation voted to the Society, notice of which was given November 26, 1930. At the date of this examination, payment of this amount, which has been credited to the Couzens Foundation, had not been requested by the Society. A statement setting forth the income and expenses of this fund is included elsewhere in this report.

Securities were verified by inspection. A schedule is included in this report setting forth the securities in more detail, showing the par, cost and market values thereof. Provision has been made in the amount of $4,614.55 to reduce the bonds owned to market value at December 29, 1930.

The contract shown on the balance sheet represents the undelivered balance of 450 sets of the medical history of Michigan, which the Society, in conjunction with the Bruce Publishing Company, has published during the past year. At a meeting of the council held on September 14, 1930, a resolution was passed authorizing the establishment of a reserve in the amount of $7,500.00 to cover the cost of 750 sets of the history at the price of $10.00 each. Dur-

Balance Sheet

Michigan State Medical Society

December 29, 1930

Assets				
Cash				
On deposit				$ 380.74
Accounts Receivable				
Advertisers' accounts	$1,152.33			
Subscriptions for medical history	760.00	$ 1,912.33		
Less allowance for doubtful		250.00	$ 1,662.33	
Children's Fund of Michigan			1,500.00	3,162.33
Securities				
Bonds—at cost		$46,075.55		
Less allowance to reduce to market value		4,614.55	$41,461.00	
Unclipped coupons			150.00	41,611.00
Contract				
For medical history (450 sets to be received)				4,500.00
				$49,654.07
Liabilities				
Accounts Payable				
Bruce Publishing Co.—for medical history			$ 1,500.00	
Joint Committee			2,111.85	
Couzens Foundation			1,775.46	
Advances made for reprints			51.00	$ 5,438.31
Reserves				
For Medico-Legal Defense Fund			$19,394.06	
For medical history			4,500.00	23,894.06
Net Worth				
Balance at December 27, 1929			$22,420.00	
Provision for reduction of bonds to market value		$4,614.55		
Net income for the fiscal year ended Dec. 29, 1930		2,516.25	2,098.30	20,321.70
				$49,654.07

This balance sheet is subject to the comments contained in our "Letter" included in and made a part of this report.

ing the year, approximately 300 sets have been delivered to the Society or its members, for all of which payment has been made or provided for. The balance shown represents the undelivered balance of 450 sets for which the Society has obligated itself in an agreement with the Bruce Publishing Company.

Provision has been made, as far as we could ascertain, for all known liabilities of the Society at December 29, 1930.

The funds belonging to the Joint Committee are received and disbursed through the Society's bank account, the Society's liability therefor being reflected in the account carried in the name of the Committee. A statement showing the recorded transactions of this fund during the year is included elsewhere in this report.

We have prepared and included herein a statement setting forth the recorded transactions of the Medico-Legal Defense Fund, which transactions have resulted in a net reduction of the fund during the year in the amount of $34.16. We reviewed the operations of this fund and it is our opinion that all charges thereto during the year are in accordance with the by-laws of the Society. The balance shown at December 29, 1930, is covered by assets on hand at that date. Attention is directed to the fact that no portion of the provision for shrinkage in value of securities has been charged to the Medico-Legal Defense fund.

We examined surety bonds protecting the Society in the amounts of $25,000.00 and $10,000.00, covering Dr. John R. Rogers, Treasurer, and Dr. F. C. Warnshuis, Secretary, respectively.

Very truly yours,
Ernst and Ernst,
Certified Public Accountants.

Income and Expense
MICHIGAN STATE MEDICAL SOCIETY

Income	Fiscal Year Ended Dec. 29, 1930	Dec. 27, 1929	Increase or Decrease
Membership dues	$20,214.75	$18,583.25	$1,631.50
Journal subscriptions	8,619.85	8,611.25	8.60
Advertising sales	9,180.55	8,197.33	983.22
Reprint sales	1,927.67	2,155.91	**228.24**
Interest on investments	1,744.99	1,635.01	109.98
Medical history sales	3,045.00		3,045.00
Profit on sale of securities	100.00		100.00
Post graduate fee—University of Michigan		1,500.00	**1,500.00**
Total Income	$44,832.81	$40,682.75	$4,150.06
Expense			
Secretary's salary	$ 6,500.00	$ 5,492.00	$1,008.00
Stenographer's salary	2,905.00	2,640.00	265.00
Society expense	6,614.51	4,668.27	1,946.24
Office rent and telephone	1,200.00	1,200.00	
Postage and printing	225.00	340.00	**115.00**
Editor's salary	3,500.00	2,829.00	671.00
Journal expense	10,712.78	12,821.65	**2,108.87**
Editor's expense	860.88	645.40	215.48
Bad debts charged off and provided for		78.00	**78.00**
Reprint expense	1,740.87	1,917.67	**176.80**
Council expense	1,795.17	707.89	1,087.28
Delegates to American Association	288.19	1,308.34	**1,020.15**
Legislative committee	258.85	2,011.98	**1,753.13**
Post graduate medical conference	352.41	3,273.84	**2,921.43**
Annual meeting	1,647.12	1,382.48	264.64
Publishing and editorial cost of medical history	3,715.78		3,715.78
Total Expense	$42,316.56	$41,316.52	$1,000.04
Net Income or Loss	$ 2,516.25	**$ 633.77**	$3,150.02

BONDS OWNED
MICHIGAN STATE MEDICAL SOCIETY
December 29, 1930

	Interest Rate	Maturity	Par Value	Cost	Market Value
Grand Rapids Affiliated Corporation	5 %	1955	$7,000.00	$7,000.00	$6,965.00
National Electric Power Company	5	1978	5,000.00	4,725.00	3,900.00
National Gas & Electric Corporation	5½	1931	3,000.00	3,000.00	2,100.00
Michigan Fuel & Light Company	6	1950	3,000.00	2,985.00	2,325.00
Pennsylvania Railroad Company	5	1964	3,000.00	3,093.75	3,093.60
United Light & Power Company	5½	1959	2,000.00	1,850.00	2,037.40
Community Power & Light Company	5	1957	2,000.00	1,940.00	1,720.00
American Telephone & Telegraph Company	5	1960	4,000.00	4,110.00	4,185.00
New England Gas & Electric Company	5	1950	2,000.00	1,820.00	1,680.00
Palmer Building Corporation	6	1935	2,000.00	2,000.00	2,000.00*
New York Central Railroad	4	1998	2,000.00	1,930.00	1,885.00
People's Light and Power Corp.	5½	1941	2,000.00	1,940.00	1,600.00
Broadway Building, 1st mortgage	6	1946	2,000.00	2,000.00	1,900.00
International Telephone & Telegraph	5	1955	2,000.00	1,925.00	1,490.00
Herald Square Building	6	1948	2,000.00	2,000.00	1,200.00
Associated Gas & Electric Corp.	5	1950	2,000.00	1,800.00	1,380.00
General Motors Acceptance Corp.	5	1931	2,000.00	1,956.80	2,000.00
		Total	$47,000.00	$46,075.55	$41,461.00

*No market quotations available.

SUMMARY OF RECEIPTS AND DISBURSEMENTS—
JOINT COMMITTEE
MICHIGAN STATE MEDICAL SOCIETY

Fiscal Year Ended December 29, 1930

Balance Due Joint Committee—Dec. 27, 1929		$1,486.23
Receipts		
Michigan State Medical Society	$1,000.00	
Detroit News	520.00	
Grand Rapids Press	967.50	
Michigan Hospital Association	100.00	
Michigan Dental Society	500.00	
University of Michigan	500.00	
		3,587.50
		$5,073.73
Disbursements		
Salaries	$2,349.98	
Alumni Press	307.90	
Jas. D. Bruce (Neostyle)	90.00	
Donald C. Lyons (Articles)	58.00	
Postage expense	56.00	
W. D. Henderson (Prize)	100.00	
		2,961.88
Balance Due Joint Committee—Dec. 29, 1930		$2,111.85

SUMMARY OF INCOME AND DISBURSEMENTS—
COUZENS FOUNDATION
MICHIGAN STATE MEDICAL SOCIETY

Fiscal year ended December 29, 1930

Income			
Children's Fund of Michigan			$3,000.00
Disbursements			
Sundry disbursements for 1929—Balance as shown by the books		$381.64	
Disbursements for 1930:			
Postage	$ 72.00		
Printing	58.70		
Lectures and traveling expense	697.50		
University of Michigan Hospital	14.70		
		842.90	
			1,224.54
Balance—December 29, 1930			$1,775.46

SUMMARY OF CHANGES IN MEDICO-LEGAL
DEFENSE FUND RESERVE
MICHIGAN STATE MEDICAL SOCIETY

Fiscal year ended December 29, 1930

Balance—December 28, 1929		$19,428.22
Additions		
Dues	$5,113.33	
Interest received	850.00	
		5,963.33
		$25,391.55
Deductions		
Salary—F. B. Tibbals	$1,000.00	
Legal services	4,901.65	
Dues returned	74.50	
Interest earned	18.34	
Postage expense	3.00	
		5,997.49
Balance—December 29, 1930		$19,394.06

V. The Secretary reported that the Treasurer was unable to be present at this session and presented his report which is incorporated in the audit made by Ernst and Ernst.

VI. The Editor, J. H. Dempster, presented his annual report.

VII. Dr. F. B. Tibbals, chairman of the Medico-Legal Committee presented the following committee report:

REPORT OF MEDICO-LEGAL COMMITTEE

To the Council,
Michigan State Medical Society.
Gentlemen:

During the year 1930, a total of thirty-six cases were reported to the Medico-Legal Committee, which is just about our standard ratio of one annual suit or threat to every one hundred members. Of these cases, three were not civil malpractice and two cases were not entitled to our assistance. One of these, however, was successfully handled on order of the Council. This case is of general interest because it involves the duties and responsibilities of a village health officer.

A mother, herself a trained nurse, reported fear of infection of her children from a female school teacher, rooming in her house. The health officer took some smears from the vagina of the school teacher and found many intra-cellular diplococci and on report of his findings to the School Board the teacher was discharged. A few months later, the health officer was sued for an alleged error in diagnosis, this claim being based on the failure of a Detroit physician to find gonococci at a later date and a statement from the pathologist at the State University that no gonococci were found four months later.

Assuming the correctness of the clinical and microscopical diagnoses which the health officer was able to prove by his slides, the question then is, what is the duty of a health officer in enforcing quarantine in dangerous communicable diseases and whether the School Board should have suspended and not discharged the teacher and whether action, necessary to the protection of many little girls, would have been taken without violation of professional confidence, unjustifiable in a private physician.

The whole controversy, which split the good people of this village into two adverse camps, resulted in dropping the suit against the doctor on the reinstatement of the teacher. The doctor wanted to fight for vindication, but wisely decided to let time vindicate him.

Another case of general interest, arising in 1923, was disposed of in 1930. It involved four doctors and a private hospital. A formerly prominent surgeon asked to operate in a gall-bladder case in this private hospital, took his own sponges, thus relieving the hospital, at least in some degree, of legal responsibility for the sponge count. The operating room nurse first reported a sponge as missing, then as found, but there was talk about the hospital the next few days of a missing sponge. The history of

the patient for the next few months strongly suggests, to a surgically trained outsider, a foreign body in the abdomen, for the wound kept breaking open.

Four and one-half months later, another operator opened the abdomen and found a sponge, and with it demonstrated to the family the correctness of his diagnosis. When the case approached trial last summer, the family doctor was dead, the sponge finder also dead, rendering his discovery impossible of legal proof. The operating surgeon had retired from practice and was living outside the United States and Mr. Barbour arranged a settlement by an insurance company for $250.00.

We successfully defended two bad fracture cases, in one of which the cause of action was based on the failure to diagnose the fractured femur, in which case a radiograph was not taken.

We have two cases of Volkmann's paralysis pending, involving three men. One of these cases suffered a diathermy burn from less than standard dosage, which resulted in the amputation of one finger and part of another.

In neither of these cases is there any evidence of too tight bandaging, which strengthens our personal conviction that Volkmann's paralysis is due, not alone to tight bandaging, but more frequently to concomitant injury to the muscles, nerves or blood vessels.

Five of our 1930 cases are for alleged obstetrical complication; three are for burns from the X-ray, diathermy, and light outfits.

The Council must determine whether the Supreme Court decision regarding the ownership of X-ray plates is of sufficient value to the Michigan profession to justify our assuming the expense of carrying the Hurley Hospital case through to the Supreme Court.

Respectfully submitted,
F. B. Tibbals.
Angus McLean.
William J. Stapleton, Jr.
J. G. R. Manwaring.
James D. Bruce.

VIII. Dr. George L. Le Fevre, chairman of the special committee on Endowment Insurance, presented the following committee report:

REPORT OF COMMITTEE ON ENDOWMENT INSURANCE

To the Council of the Michigan State Medical Society.

Gentlemen:

Your committee to whom was referred the problem of endowment insurance or straight life insurance to be taken out by our members, and in which the Endowment Foundation of the state society was to become the beneficiary, submits this as its report.

1. Your committee has engaged in extended correspondence with numerous insurance companies and men conversant with insurance work.

2. Your committee found it impossible to secure any insurance company that will write any blanket or group insurance for the profession of the state.

3. Your committee disapproves entering into any arrangement with any insurance company that seeks to write individual insurance for our members and places the burden of collecting the premiums upon such policies upon the state secretary.

4. Your committee heartily supports and recommends to our members for their favorable consideration the plans and purposes that underlie our Endowment Foundation. Such a Foundation will be an everlasting source of income for post-graduate purposes for our members. Therefore, your committee recommends that the Council, through its Executive Committee and through its Officers, shall undertake a sustained and continued campaign of education and solicitation of our members, urging them individually to take out insurance policies in which the state society will be the beneficiary and that those who are able may well make provision in their wills to bequeath to the Endowment Foundation such sums as they feel able to so bequeath.

Respectfully submitted,
George L. Le Fevre, *Chairman*
R. M. McKean.
William J. Stapleton, Jr.
Theo. H. Heavenrich.
C. W. Brainard.

IX. Dr. George L. Le Fevre, appointed as chairman of the special committee on Annual Registration of Physicians, presented the following committee report:

REPORT OF COMMITTEE ON ANNUAL REGISTRATION OF PHYSICIANS

To the Council of the Michigan State Medical Society.

Gentlemen:

Your committee to whom was referred the question of the desirability of annual registration of physicians has given the subject careful thought and presents this as its report and recommendation.

1. Twenty-two states of the Union require annual registration of physicians. While annual registration was opposed in most of these states when the suggestion was first made, at the present time, after this legislation had been enacted, the members of the profession in these twenty-two states are unanimous in their expressions of the benefits that are being derived from such annual registration.

2. The chief benefits that Michigan will derive from annual registration are:

First, the ascertaining of an authentic, up-to-date list of all physicians duly authorized to practice medicine and surgery.

Second, annual registration will expose unlicensed and illegal practitioners and will enable the Board of Registration in Medicine and the law enforcement officers of the state to institute prosecution against these illegal and unregistered practitioners.

Third, it will enable the state to rid itself of undesirable and unregistered practitioners and will be to the benefit of the public as well as the profession.

3. In view of these and other benefits that the committee perceives, your committee does recommend that the state society approve the plan of annual registration and that the society support the bill that is to be introduced in the coming session of the legislature providing for such annual registration at a fee of Two Dollars ($2.00) per year.

4. In order to disabuse the minds of many of our members who are fearful that if by any reason or other they fail to send in their annual registration blank that they will lose their basic license, your committee calls particular attention to the following provision in the amendment that bears upon this subject:

"Failure to re-register annually shall not automatically cancel or revoke the basic license of the holder issued by this Board. Licentiates failing to re-register annually shall be considered as being merely in suspension. They shall be allowed to re-register at any time during their suspension, providing no charges or action for revocation are filed against the applicant."

You will thus perceive that a doctor will not lose his basic license simply because he failed to send in his application blank during a given time, but can re-register at any period providing that he has no charges against him.

The committee reiterates, because the benefits that will accrue to the public as well as to the profession are so desirable, that this proposed amendment merits the society's wholehearted approval and your committee does so recommend.

George L. Le Fevre, *Chairman*
L. G. Christian.
C. Edlund.
Alfred H. Whittaker.
C. K. Hasley.

X. Dr. Charles E. Dutchess, chairman of the Cancer Committee, submitted the following communication to the Council:

REPORT OF CANCER COMMITTEE

Council of the Michigan State Medical Society.

Gentlemen:

At the meeting of the Cancer Committee December 3, 1930, it was decided that the paramount need in cancer control is education, both lay and professional. One step which appears advisable to take at present is encouragement of cancer programs before the County Medical Societies of this State. It was felt that any recommendations to county societies might best come from the council. For this reason, this committee voted to suggest to the council that it recommend to the secretaries of the county societies that at least one cancer program be presented before each county society every year.

While considering the best means of surveying the facilities for diagnosis and treatment of cancer in Michigan, it was decided that this could be best done through the official agency of the council. For that reason this committee respectfully requests the council to delegate the several councilors to obtain such information and report it through the council to this committee and to the society, each councilor to investigate

and report on his own district. In order to insure uniformity of information and to facilitate the work, this committee will gladly submit forms, for your consideration, which may be used in such reports.

Lest it might appear that the foregoing request is made to relieve this committee of its logical duties, we hasten to point out that this committee has no members who could represent certain parts of the state; furthermore, we assure you that our only reason for making such request is that it appears that such information could be most efficiently obtained by the several councillors, and would be most favorably received if published by your official body.

That such information should form the foundation of any practical program to be followed in cancer control, must be obvious. Information of a statistical and epidemiologic nature has been promised us by State Health Commissioner Slemons.

Assuring you of our earnest desire to further the cause of cancer control, and again requesting your assistance in this matter, I am

Faithfully yours,
Chas. E. Dutchess, *Chairman.*

XI. Councilor B. H. Van Leuven recommended Dr. W. F. Reed of Cheboygan for honorary membership in the society.

XII. The Committee on Civic and Industrial Relations presented the following resolution to the Council:

REPORT OF COMMITTEE ON CIVIC AND INDUSTRIAL RELATIONS

With reference to the matter of the Resolutions on health and accident insurance companies, the Civic and Industrial Relations Committee recommends to The Council of the Michigan State Medical Society:

1. That the Committee believes the Resolutions as adopted by the House of Delegates at the Jackson and Benton Harbor meetings should be sustained;
2. That the Committee should establish contact with proper representatives of the insurance companies in an effort to arrive at a definite and amicable solution of the problem;
3. That these Resolutions again be specifically presented to the memberships of the various county medical societies; and
4. That a Resolution pertaining to this matter be presented to the House of Delegates of the American Medical Association at its next meeting.

Adopted by the Civic and Industrial Relations Committee of the Michigan State Medical Society, January 19, 1931.

XIII. Chairman Corbus submitted to the Council the following communication that he had addressed to the President of the University of Michigan:

Grand Rapids, Michigan,
January 7, 1931.

Dr. A. G. Ruthven,
President, University of Michigan,
Ann Arbor, Michigan.

My Dear Mr. President:

Pursuant to a motion made at the 1926 meeting of the Michigan State Medical Society, the president appointed a committee to "investigate charity hospital service at the University Hospital and other hospitals in our state."

The Executive Committee of the Council interpreted this motion and gave the following instructions:

"That the committee be charged with the responsibility of establishing a definition of the word 'charity' as applied to medical and surgical service, and also to survey the hospitals of the State in regard to the development of charity work or what is interpreted as charity work, and to formulate a general plan which may be recommended to hospitals to govern them in the admission and care of people who are entitled to free medical service."

This committee ultimately brought in a rather exhaustive report, the making of which received most gratifying co-operation from Dr. Haines and other representatives of the University. Although instructed to present this report to you and to the University authorities some time ago, the Council has delayed presentation on account of the unsettled character of administrative affairs in both the University and Medical School. We would now like to have the opportunity of presenting this report to you and possibly to the Medical Committee of the Board of Regents if in your judgment such would be necessary or wise.

I would like at this point to emphasize that the Council has a great desire to be mutually helpful to you and to the University. We desire above all that there shall ever be a sympathetic understanding be-

tween the University and the medical profession, and we believe this can best be obtained by a free discussion between you on the one hand, and a representative of the State Society and of this special committee on the other.

I am sending you the Committee's reports today, with the request that after you have reviewed them you will, at some convenient time, permit us to discuss with you several matters commented upon therein.

Respectfully yours,
B. R. Corbus,
Chairman of the Council.

XIV. On motion of Le Fevre-Powers, the Secretary was directed to suggest to county societies that they purchase a copy of our Medical History and place it in their local library.

XV. The hour for the conference with the Legislative Committee having arrived, the Council received Doctors Sundwall, Whittaker and Carr as members of the Legislative Committee and entered into conference with them concerning our legislative problems. After a lengthy discussion the Legislative Committee was directed to continue their splendid activities and to keep in close contact with the Executive Committee for advice and added assistance.

XVI. At 5:00 P. M. the Council recessed until 7:30 P. M.

XVII. The Council reconvened in formal session at 7:30 P. M.

SOCIETY WORK

XVIII. Councilor Boys, Chairman of the Council's Committee on County Society Work, presented the following report:

A. We recommend for election as honorary member, Dr. W. F. Reed.

B. We recommend that September 22, 23 and 24 be selected as the dates for holding our 1931 annual meeting.

C. We recommend that each county medical society be encouraged to hold at least one cancer meeting during the year and further recommend that the Cancer Committee obtain the information that they desire by correspondence with the county secretaries.

D. We recommend the adoption of the special committee's report on endowment insurance.

E. Your committee does not feel that official action should be taken by the Council on the question of annual registration of physicians, but recommends that the sentiment of the county societies be first ascertained before full endorsement is given to this contemplated amendment to the Medical Practice Act.

F. Your committee recommends that Dr. W. L. Casler's association with an unrecognized and questionable organization be referred to the councilor of his district, and that Councilor Burke be requested to make an investigation and cause the Marquette-Alger County Medical Society to prefer charges and proceed under the provision of the Constitution and By-Laws and that should there be any failure to procure prompt action your committee recommends that the Executive Committee assume the initiative.

G. Relative to the recommendations made by the Secretary in his annual report your committee recommends that these recommendations be referred to the executive committee of the Council for action.

H. Your committee approves the resolution passed by the Committee on Civic and Industrial Relations and authorizes that a communication be sent to each county society urging the doctors to conform to the resolution adopted by the House of Delegates.

All of which is respectfully submitted.

C. E. Boys, *Chairman.*
T. F. Heavenrich.
O. L. Ricker.

On motion of Boys-Brunk the Council adopted the report of the committee as a whole.

FINANCE

XIX. The Council Committee on Finance reported as follows:

We have carefully examined the financial statement of the Secretary and compared it with the official report of our auditors and find the same to be correct. Your Committee notes the excellent financial condition of the Society and recommends the approval of the financial report and the submited budget for 1931.

George L. Le Fevre, *Chairman.*
P. R. Urmston.
George C. Hafford.

On motion of Van Leuven-Burke, the report of the finance commitee was adopted.

PUBLICATION

XX. Dr. J. D. Bruce, chairman of the Council's Committee on Publication, submitted the following report:

REPORT OF COMMITTEE ON PUBLICATION

Your Committee has watched the growth and improvement of the Journal during the past year with great satisfaction. The discriminating selection and painstaking editing of the scientific articles presented, together with the editorial policy, have placed our Journal in the first rank of state medical publications.

We commend especially the early preparation of copy by our editor and the promptness of publication and delivery by our publishers, believing that the regular appearance of any publication makes for sustained interest.

The year just past has presented many financial and economic difficulties from which our profession has not been exempt, so that economy should be practised and increased revenues invited. We are hopeful that every legitimate effort will be employed to reduce expenses to our membership, making the advertising possibilities of the Journal as attractive as possible, and commend the activities of our secretary in this regard.

J. D. Bruce.
B. H. Van Leuven.
A. S. Brunk.

XXI. On motion of Carstens-Hafford, the report of the chairman of the Medico-Legal Committee was adopted.

XXII. On motion of Bruce-Cook, the Medico-Legal Committee was authorized to carry to the Supreme Court the question of ownership of X-ray films as raised in the Hurley Hospital case.

POST-GRADUATE EDUCATION

XXIII. Dr. J. D. Bruce, chairman of the Committee on Post-Graduate Work, presented the following report:

The co-operation evidenced between the University of Michigan Medical Department and the Michigan State Medical Society for the development of post-graduate medical instruction has been very well evidenced by the successful conferences that have been held during the past three years. The support of the Children's Fund of Michigan to our programs of clinical instruction has permitted an extension of our activities in the field of post-graduate work devoted to diseases of children.

Your committee recommends the continuance of our regional post-graduate conferences, pediatric clinics as now conducted in conjunction with the Children's Fund and the course of post-graduate instruction made available in Ann Arbor and Detroit by the University of Michigan and the Michigan State Medical Society.

We also commend the plan for pediatric teaching and child welfare work as provided for by an association of the Children's Fund, the University of Michigan Medical Department and our State Medical Society.

J. D. Bruce, *Chairman.*

Upon motion of Powers-Urmston, the report of this committee was adopted.

XXIV. Upon motion of Councilor Bruce, supported by Heavenrich, the Secretary was instructed to send a communication to the Governor expressing the Society's appreciation of the splendid co-operation that is being accorded to the physicians of the state by State Health Commissioner Dr. C. C. Slemons, and to urge the Governor to continue Dr. Slemons in this responsible position for which he is so ably fitted.

XXV. Upon motion of Neafie-Ricker, the Secretary was instructed to develop the plan outlined for our annual meeting and to be guided by the advice of the Executive Committee in perfecting the final details of local arrangements.

ELECTIONS

XXVI. Upon motion of Powers-Boys, J. H. Dempster was elected as Editor for the coming year.

Upon motion of Ricker-Heavenrich, John R. Rogers was elected Treasurer for the coming year.

Upon motion of Cook-Urmston, F. C. Warnshuis was elected Secretary for the coming year.

The Council adjourned at 10:30 P. M.

F. C. Warnshuis, *Secretary.*

"No rules can be given for making the unfertile brain fertile nor for the better use of the fertile brain."—Pillsbury.

Proceedings, Annual Conference of County Secretaries of the Michigan State Medical Society

Michigan Union, Ann Arbor, January 22, 1931

THURSDAY MORNING SESSION

January 22, 1931

The Annual Conference of County Secretaries of the Michigan State Medical Society, held at the Michigan Union, Ann Arbor, January 22, 1931, was called to order at ten-thirty o'clock by Dr. F. C. Warnshuis, Secretary of the Michigan State Medical Society.

Chairman Warnshuis: I am sure that I am empowered by the officers of the Society and the Council to welcome you to this meeting this morning. The real address of welcome was to have been given by our President, Dr. Stone. Unfortunately, Dr. Stone is ill and has been confined to his bed, and will be for about a month. Naturally he is unable to be present.

We have with us the Chairman of the Council. Right now he is going to assume the office of President, President-Elect and Chairman of the Council, and welcome you. Dr. B. R. Corbus. (Applause.)

Dr. B. R. Corbus: I had a telephone message yesterday from Dr. Stone. He asked me to extend to you greetings and to express his great regret that he is not able to be here. I extend to you his greetings and his regrets.

The strength of organized medicine, of course, rests in the county unit. Your officers recognize that better, perhaps, than you yourselves do. I sometimes think that the county unit and its officers are neglectful and fail to appreciate the importance of their own small unit, and so allow the responsibility of the society to rest too largely upon its officers and the council.

The day has gone by when a county society is simply a group gathered together for helpfulness one to another in a scientific way. Problems of a society as large as we are now grow year by year. More and more we take a position in the social body and try to make it a helpful position; we feel our responsibilities are large and that we must justify them.

Our activities in these recent years have been more and more directed to things outside the simple cultural—if I may speak of it in that way—side of scientific medicine. It is along some of these lines that I particularly want to talk to you today.

First there is your relationship to your local public. In these last years it has become a rather favorite pastime of a good many lay writers and too many graduate doctors to write articles slurring the doctor and slurring medicine as it is practiced. It is a sort of revolt against the physician. Much of this is due to the fact that the physician has kept too much aloof from the public. Enthusiastic lay individuals of your community have felt that they must do something for the public in the way of clinics of various sorts. They have taken control of the clinics, of the baby clinics, the tuberculosis clinics and others, and now it is the clinic of mental hygiene. While they have used the doctor, who is the important wheel in the operation of any of these social clinics, they have given him very little opportunity to express himself in regard to the policy. The doctors themselves have been rather largely to blame because they have stayed aloof and have not made the necessary exertion to inject themselves into these groups.

I would urge you, secretaries of county societies, to do more than you have done in the past to get into these various activities which are going along in your town, and to see if you cannot show the people that you are interested and, by virtue of your profession, intelligently interested in these health activities.

The other day in Grand Rapids there was a meeting of a group of osteopaths. I was interested to see in the paper that they had sent speakers to several of the high schools, to tell the pupils the advantages of the study of osteopathy and to urge them to take up osteopathy as a vocation. I can't remember ever seeing a similar activity on the part of any one of us. Perhaps we feel that we could not conscientiously urge a young man to go into medicine, that the returns are not commensurate with the money and time expended and the effort which

must be given to make a living. And yet I notice that a doctor is always pleased when his son goes into medcine and follows in his footsteps.

I am glad that you are going to be here at the meeting of the Joint Committee on Health this noon. I think you will gain an insight to what that group is doing to educate the public along health lines. You perhaps have forgotten that that group was originated by this Society, that the first addition to the group was the University of Michigan, and that this Society was instrumental in getting this work placed under the Department of Extension and Education, with Dr. Henderson as the head. From time to time other groups have been brought into this unit, the dentists, the nurses, public health, the Detroit College of Medicine, until there is a very representative group forming this Joint Committee.

Through the Extension Department of the University, speakers are sent out over the state; 157,000 people were met last year. Such education ought to be of value. We believe it is. We believe it can be extended still further. We believe that one of the later activities, the column which appears in the Detroit News, is of real value. We feel so because of the interest that the editors of the paper have shown and because of the number of letters that are received from interested individuals throughout the state.

We feel it is quite important that the doctor himself be educated, that is that the doctor have the opportunity of having brought to him the newer things in medicine, and some of the older things which have become rather rusted in his mind.

We have felt for a long time that the University owed an obligation to its graduate students to give them the opportunity of brushing up and maintaining in accurate form the knowledge they gained in the University. We are tremendously pleased that we have the establishment of the postgraduate department of the medical school. Although that postgraduate department has just started, we look forward to the development of such a department at the University of Michigan as will be equal to anything in the country.

So far the work of the postgraduate department of the medical school has gone along pretty closely associated with the State Medical Society. The three weeks' course at Detroit that we have given for two years has been tremendously successful. It has been a thoroughly good course. The postgraduate conferences that we have held throughout the state continue to be asked for and continue to be well attended.

We have had the opportunity of working with the Couzens fund to a certain extent. They have set aside some $1,500 a year for postgraduate clinics, particularly on pediatrics. We have spent that advantageously. While the State Society has had nothing to do with the establishment of the pediatric clinic at Marquette, which involves something more than has been attempted heretofore, we have been in close enough contact with it to feel assured that that clinic at Marquette, with funds provided by the Couzens Foundation, and under the pretty close observation and advice of Dr. Bruce of the postgraduate department, will be of great value to the people of the Northern Peninsula and will in no way conflict with any of our ideals. I say that because there has been some fear expressed by one or two men of the Upper Peninsula that that might be a step toward state medicine. We feel confident that the thing is going to be handled in such a way that we need not have that fear.

I think it would be fitting if every man who possibly can afford to would buy the state history. It is a perfectly splendid history. It is an inspiration to any young man. It is a most interesting thing to those of us who are older. It shows the development of Michigan medicine. It brings up many a happy memory.

We haven't been very fortunate in our sales. The State Society is obligated at the moment for 450 unsold copies which we felt we must contract for in justice to the publishing company. So far there have been a little over 300 copies sold. That is hardly one to ten of the doctors in the state. May I suggest that it would be a nice gesture for your county society to buy a set of those histories and present it to your local library. That has been done by some county societies in the state. Few libraries in Michigan are able to purchase books of this character. Those that can afford it have done so. It would be a splendid gesture. I hope you will consider it.

At this time a problem which is always forced upon us is the legislative problem. It

is a great pity that so much time and energy must be expended every two years with this problem without getting very far. We had hoped two years ago that with the professional qualifications act we might end this thing once for all. Unfortunately we didn't succeed. Perhaps after two years of thought we are not as unhappy about it as we were at the time. Perhaps the professional qualifications act isn't quite the answer. There are some of us who don't think that it is. But there is an answer somewhere, so that on the statute books of Michigan will be a law which will be broad enough to protect the doctor and to protect the public, and a law that will stand.

Our medical practice act today isn't so bad. It needs some few corrections here and there, but as compared with some other states it is a pretty good act.

The big point that we wish to bring out to the public is that we are not only interested in an act which will protect us in the practice of medicine, but we are more interested in an act which will protect the public against the charlatan, the inefficient cultist, so that the public may have the best care that is obtainable in the case of sickness, and at a price which it can afford to pay.

The osteopaths are up with a bill, the chiropractors are up with a bill, and it is up to us to watch these bills carefully that the state shall not give the opportunity for the man of very limited qualifications to treat the man who is ill.

The only way we can prevent a bad bill is by showing the legislators that it is a bad bill, is not in the interest of the public, and, if we can, that it does not have behind it a sufficient group of people to justify its passage.

We come back again to the county unit with the urge that you make more of an effort than has heretofore been made to get next to your legislative representative, that he may be told the why and the wherefore. It is very much easier to sit down with a man and tell him why it is to the interest of the public and his own interest to favor a decent bill, a bill which will protect the people from the harm that can be done by the unqualified practitioner, and it is so much more effective than to talk to him in Lansing in the turmoil of legislative days.

May I urge you as strongly as I can that you do make more of an effort than you have heretofore made to know your legislator and to tell him why this bill is bad and this bill is good. It is the only way that we see that we are going to get very far in the prevention of unwise legislation.

We are not so much disturbed about the osteopaths as we are about the chiropractors and some of these various "paths." After all, the osteopaths are few in number, comparatively. We don't want a separate board of osteopathy appointed, because we feel that will mean that the man who can't get through our regular board because he is insufficiently trained will go to the osteopathic board to find a place where he can slip in underground. We want to prevent that.

Recently there has been presented to the legislature a nurses' bill which would throw the control of the nurses' training into a group made up of the nurses alone. They propose to take the doctors off the board entirely. That bill, while it is not supported generally by the nurses' association, has its distinct dangers. First, it will tend to increase the cost of nursing service to the public; undoubtedly it will. It will take the control of the nursing curriculum out of the hands of the hospital. Hospitals are quite able to protect themselves, we believe, so far as this bill is concerned. I only mention it here because doctors throughout the country have had a synopsis of that bill which because it is a synopsis and not a complete bill is likely to get some support from the doctors. I bring it to your attention because I think it would be a grave mistake if any support were given to that bill, not that we want you to take an antagonistic attitude to it, but let it alone. It will be taken care of by the hospital association I have no doubt.

One word more on legislation. It isn't only the cults and their bills which we are concerned about. So far as our own attitude this year, it will probably be that we will rest, if we can; that we will put up no bill and be satisfied with what we have. Possibly certain corrections to the law may go before the legislature on the suggestion of the Attorney General. These are rather more technical than anything else. But there are other things that are likely to get into legislation which will need watching. Whenever we are in a period of depression there is bound to be a feeling of unrest, a feeling on the part of many that the medical men

in the state should be more helpful in one way or another to the people of the state, and with all good intentions oftentimes things will slide into the law which will make it very hard on the doctor and produce a serious situation.

We already have a foundation in our liability law which would make it possible, with very little change, to have that law extended very broadly. In other words, it is possible on the framework of the liability law, according to our advice, to build state medicine. Those things must be watched, and this year is going to be a more dangerous year along that line than any year that we have had recently.

As Chairman of the Council, I want to urge you to go back to your societies; build, of course, as good a scientific program as is possible, because after all that is what your men are interested in; let the Secretary or let me help you when you are out of material, when you have some special occasion when you would like to bring some men into your county from the outside; but don't forget that if you are going to develop yourselves or your young men, it has got to be by letting them do things. Don't depend too much on the outside men; that is done a bit too much. Your young men have got to be trained to give papers and to write papers.

Remember that if you are going to get anywhere, if you are going to build up the standing of the doctor and the profession in the community as a defense against these slurring articles which you see so frequently in the magazines today, it is going to be by living more largely, getting more into your community life, taking the position that you ought to take in community life, the position, let me say, that was taken a generation or so ago. We are, as individual doctors, not nearly so active today in general community social life as our fathers or grandfathers were. We have lost that by living too close together, too much unto ourselves.

Chairman Warnshuis: One of the outstanding benefits of membership is the protection that is afforded by our Medico-Legal Defense Committee. The average doctor who daily pursues his practice undisturbed little realizes or appreciates the benefit or the value that the protection of that Committee affords, but when the threat of suit comes to you or the suit is instituted, the protection that you receive from the Medico-Legal Defense League of our Society will cause you to have sleepful and restful nights in place of unrest and annoyance.

Because many of our members do not really appreciate the protection that is afforded to them and in order that you as County Secretaries may better inform and enlighten your men, we are going to have Dr. Tibbals talk to us on the features and work of the Defense League.

I must say that Dr. Tibbals was the instigator of this League. He has served as its Chairman through all the years of its existence. He has built up the defense. As a specialist in medical protection he ranks foremost not only in Michigan, but in the country. Dr. Frank B. Tibbals, Chairman of the Medical Defense Committee of the State Society.

MEDICO-LEGAL DEFENSE

Dr. Frank B. Tibbals: Mr. Chairman, Members of the County Secretaries' Organization: I am a little surprised in looking over this audience to see that the old custom which has always prevailed with us in Detroit of selecting a young fellow as Secretary does not prevail throughout the entire state. The young fellow was usually selected because, being a recent graduate, he was more apt to be able to read and write than some of the older fellows, and also because having not so much else to do he would have the time and the energy for the duties of his Secretaryship, which, of course, constitute the real active part of the work of a county society. Possibly in certain sections of this state there are no longer any young men.

Regarding the work of the Medico-Legal Committee, I wrote an article for the History of Michigan which covers the entire subject fairly well. I understand that so far many of you are not in possession of these volumes, but it is likely that your Councilor through his official capacity may have secured a complimentary copy, and you may be able to borrow a copy and read my article. (Laughter.) I might say in passing that my article alone is worth the whole price asked for the book. (Laughter.) Besides that there are other good things.

I want to tell you rather briefly and probably rather ramblingly what the work of the

Medico-Legal Committee consists of. You are familiar, undoubtedly, with the legal requirements for the practice of medicine. You are a graduate at the present time of a Class A school, certified as Class A by the American Medical Association. That means a high grade school. All the recent graduates are well trained men. Besides that, the recent graduates are obliged to have one year of hospital training. Besides that, they must pass a rigid examination before the state board on their training. Then they are entitled to practice medicine in the State of Michigan.

The question which is raised in malpractice suits is one of two things, practically always No. 2 rather than No. 1; that is, the competence of the practitioner is very seldom assailed, it being assumed that, being licensed by the State of Michigan to practice medicine, he is competent. The question of negligence is the thing that is usually charged. Negligence means doing something that you ought not to have done, or leaving undone something that you ought to have done. Beside this charge of negligence there are other charges, such as what is legally assault. We know it better by the term of non-consent. You are not allowed to do things to people medically or surgically without their consent thereto, and the charge of an operation without consent therefore is not infrequently brought. As I say, this legally constitutes assault.

Then there are charges brought under the ground of breach of contract. The law is very clear, generally, regarding the doctor. He is required under the law to display only the ordinary degree of knowledge and skill that prevails in his community. The doctor in Bad Axe isn't required legally, perhaps, to be quite as good a man as the doctor in Kalamazoo. He must avoid negligence, and he must in every case use his own best judgment. Those requirements are not hard; they constitute what we are legally held responsible for. All the various suits and threats of suits are based on some failure to live up to those requirements. As I said, it is ordinarily the charge of negligence.

There are three pretty general causes for malpractice suits, one of which ought to be absolutely within our control. Those three causes are: First, the dissatisfied patient. That is a proposition that cannot always be eliminated. We all have them; we all have patients in whom our results are not as satisfactory as we hoped for. So the dissatisfied patient is always present in greater or less degree with everybody.

The second factor is the hungry lawyer. There are lots of men entitled to practice law who are not particularly successful from the financial standpoint and who are, like the struggling young doctor, looking for business of any kind. That class of men I call the hungry lawyers. They are in every community, they are looking all the while for some opportunity to get money out of somebody else.

The third factor is the jealous doctor. If you take the combination of the hungry lawyer, the dissatisfied patient and the jealous doctor, then you have a malpractice suit. This malpractice suit would never have started without the introduction of Factor No. 3. Unless there is in every community some doctor who feels a little sore at Brown, who feels that he should have had this patient, who is a trouble-maker, you never can get that case started. If you once get the case started it cannot succeed in court unless some doctor is willing to take the stand against the doctor defendant and testify that his treatment was in some way improper.

That is a matter which to my mind is of supreme importance. That is a matter which I want you County Secretaries to take home with you. You are important factors in your neighborhood. If you were not classed as go-getters, as prospective leaders, you would not have been elected Secretaries of your societies, so knowing the various men in your community, you and the Chairman of your County Medico-Legal Committee, which should be elected in every county and has not always been elected, should be able to harmonize the conflicting elements in your neighborhood, to reason with the fellow who is inclined to be disgruntled at Brown. Maybe sometime Brown did take care of a patient of his. You can't help those things in any community. But admitting that he has a grievance against Brown, we like to put this thing up to the aggrieved man who may become a trouble-maker: "From the standpoint of safety first, Doctor, keep your mouth shut. It doesn't do your community any good."

The history of the Medico-Legal Committee all over this state is that in any com-

munity where we have had one successful malpractice case, four or five or six have followed within the next five years. Therefore, from the standpoint of safety first, it behooves every man to keep his hands off these things, because if a suit is once started in one county there are a lot of others to follow. The hungry lawyer is always there. He sees the opportunity of getting some money. These cases are usually taken on a speculative basis of fifty-fifty. It only costs him six dollars to start this suit. He will gamble six dollars that he may be able to collect a thousand or two.

Assuming that you have elected a member of the Medico-Legal Committee, the Medico-Legal Committee is organized in this way. We have a Chairman, and you are looking right at him. He has with him four other members of the so-called Executive Committee who are appointed by the Council and are so located that they are within telephone distance or driving distance of Detroit, so that we may get together when there is any matter coming up which needs a conference.

Supplementing this Executive Board is a member, elected annually, from each county society. We like to get in touch with that man in case of threatened trouble in any county. Very likely this matter will first be reported to the Secretary of the county society. He, with the local member of the Medico-Legal Committee, should go over the facts and report them to me, and afterwards they should constitute themselves a harmonizing committee to reconcile conflicting interests among the different members of your community, the different doctors, and make defense very much easier.

This spirit of esprit de corps prevails very largely in most of the counties in Michigan, and there are today very few counties in Michigan where an expert medical witness can be secured for the plaintiff among the doctors in that community, because I think we have been fairly successful in educating the men in every community to this doctrine which I call safety first: leave these things alone, because you may be next, you are just as vulnerable. Therefore, in many of the suits they are obliged to import a man from outside the county, and very frequently from outside the state. The imported witness does not have the influence with the jury that the local men have. The jury are alleged to be intelligent men and occasionally are. They say, "Well, if this thing is really so, why hasn't Dr. Highfield testified, or another well-known local physician?" Therefore, the outside man does not carry influence.

I can forgive any one of you or even my best friend who actually feels that the care of a patient at the hands of some other doctor has been incompetent and negligent and honestly may believe that he is doing his duty to the public in saying so on the stand, but I have nothing but contempt for the follow who will come over from an adjacent county or from outside the state because he is getting paid for it, and publicly condemn a co-worker. There is mighty little of that in this state now.

You know, I am sure, that without the testimony of the medical expert for the plaintiff no case can go to a jury. So you see how true it is that actually the situation is very largely in our hands, and, as I have said, in any community where no expert witness can be found for the plaintiff, these cases are usually not carried through to trial. If the attorney thinks he has a remarkable case and is willing to make an investment of considerable money, he can always import somebody from Chicago—the windy city was very well named by somebody, and the woods are full of them over there, from my experience, who run true to form. We have encountered a number of those. In a recent trial in our town the expert was from the windy city. In the classical case which made medical history down at Allegan of endarteritis obliterans, the medical experts were from Chicago.

So I have told you what we would like you, the County Secretaries, with your local member of the Medico-Legal Committee, to do in case of trouble in your community.

Then what do we do? We, in the event that this is only a threat, try so far as possible with your aid to harmonize the conflicting interests, to influence the local profession so that they keep their hands out of it, and in that case it may die. In the event that suit is started, you notify us at once, and in conference with you by letter or wire we get your suggestion of a local attorney. We don't always act on that, because that matter is in the hands of our general attorney, Mr. Herbert Barber, who is in touch with the legal authorities in various

sections of the state and is authorized to select the man whom he knows by experience to be the best man in your community, and we want to furnish for you the best man as a medico-legal expert that we can, rather than some personal friend of yours. There is seldom any conflict over that. If the man suggested by the doctor is satisfactory to Mr. Barber we retain him; we make a contract with him so that we know what his services are going to cost us. We need a local attorney always because of the local color. He knows the jurymen and he knows local conditions. A lawyer coming in from Detroit who attempts to pick a jury has a certain amount of prejudice as a rank outsider, but after that jury is picked by the local man they will listen to the expert. We send to the trial of every case, Mr. Barber, who is beyond question the best trial lawyer in Michigan in these cases, and a man who is exceedingly diplomatic and resourceful in his professional contacts.

If you get what I mean it is this: An outside lawyer comes into your community who doesn't know anybody, and he may antagonize the profession. Herb Barber goes in there and gets in touch with them, finds out who are the leaders, forms a sort of round table conference, and they go over the thing and he is told right away who the doctor is who is liable to be on the stand for the plaintiff, and immediately the wheels start rolling in an effort to confer with that man. Before he goes on the stand he knows absolutely that he is doing something he ought not to do, which doesn't have the backing of his professional brothers, and very frequently he either quits, or, if he has pledged himself so far that he has to go on, he makes a witness for the defendant rather than for the plaintiff.

Supplementing our defense comes the insurance policy which many of you carry and which I think you all should have. From your dues to the State Society every year has been taken a little bit of money which has gone into this medico-legal fund, which is as sacred there as in the bank, which cannot be touched for anything else, and by the use of this little stipend over a period of twenty-one years we have accumulated a reserve fund now of something like $20,000, so that if we have a bad year (and that may come any time when we have a lot of expensive suits), we have the reserve fund to draw on. If we have a good year we may add to it a little bit. We carry your defense through every Michigan court. In the event that you have been negligent (and this is a matter, gentlemen, not for you or me to decide, but the final decision comes from the court and the jury), and in that event a final adverse verdict is rendered against you which the Supreme Court of Michigan refuses to reverse, then it is mighty nice to have an insurance policy which pays the indemnity. We all carry automobile insurance, and most of us have never had an accident. We all carry fire insurance, and most of us have never had a fire, but none of us regrets that the household furniture and the house and garage have been covered amply by insurance for the last twenty-five years, and we never drew anything back, because it has been a beautiful investment, it has been a protection. That is what your insurance policy is. In the event that you should be stung, you don't have to go down in the old sock and dig up the savings of years to pay this judgment; the insurance company pays it for you.

Insurance rates cost in the neighborhood of $20 or $21 per year for ample protection. If it had not been for the work of the Medico-Legal Committee, that rate would be $25 or $30, as it is in some other states. Your little $2 a year which has been paid from your dues into the Medico-Legal fund has saved you at least $5 every year, because the expense of defense in the State of Michigan is lower than in most or perhaps all other states on account of our cooperation.

Another thing we do which I think is of tremendous value is this: Most of the insurance companies in trying a case in Cassopolis, for instance, will retain a local attorney only and endeavor to teach this chap, who knows absolutely nothing about medical jurisprudence and the law of malpractice, by mail, by correspondence school, by briefing the law for him, how to handle this case. Not one out of ten ever gets it. Consequently, that case is not properly defended by the insurance company, but practically every one of these men, where we are jointly liable, sooner or later refers the case to us and Mr. Barber goes out and tries that case, and usually very successfully.

In the last year we have lost but one case

at trial. Several bad cases were settled during or before trial. That one case was lost on account of a purchasable medical witness who testified for the plaintiff.

I don't remember how many cases we defended, but quite a number, and that is a nice record. It shows two things: the efficiency of medical defense; it also shows that ordinarily the doctor is not legally liable as charged. If he were legally liable as charged he would have been convicted, wouldn't he? But when we can acquit a man and that being the final decision, then he was not legally guilty.

As a matter of fact, actual malpractice in my experience is rare. There are many cases where at first glance we might say, "Why, that fellow has been negligent." Yet let each one of you think over your cases of the last ten years, and how many cases can you think of where you didn't get the result that you hoped for, and how many cases can you think of where you did a little something that wasn't quite according to Hoyle? When you make that introspection you will be inclined to sympathize with the other fellow on whom they are jumping, because, if you do make that introspection, you know that to err is human, that there is none of us infallible, that we all do little things now and then which we should not do, we are all liable to little accidents. The man who is giving a hypodermic and the needle breaks off is the victim of a pure accident, and yet is liable to a charge of malpractice. The nurse, who may be your agent because you got her for the family in this case, may put a hot-water bottle too near the patient as she is coming out from the anesthetic, and that patient may be burned. You are to blame; she is your agent; you are legally liable.

There are so many of these things where the law says we are to blame where we say we are not. So my claim is that we all ought to stand together with a fellow feeling on these things and back each other up.

At the suggestion of the Secretary, Dr. Warnshuis, we are about to send out a letter to each member of the county societies, a matter that we have never done before, because, I will be frank with you, I am a tightwad. I have always tried to squeeze the funds of the Medico-Legal Committee and not to spend anything unnecessarily, and possibly thanks to that policy we have accumulated a handsome reserve which now enables us to loosen up a bit. The idea of this letter which you will all receive and which all your members will receive is to call the attention of each individual member of the Society to one respect in which the profession is very lame.

One of the important new things in the practice of medicine is the X-ray. It is absolutely essential in the diagnosis and treatment of fractures. The X-ray with a competent operator is within reach of every one of you without exception, for the diagnosis of most of your fracture cases. You may have a bedridden patient whom you cannot transport to an X-ray machine and the home may not have the facilities for the use of a portable machine, but with few exceptions the X-ray is the means of diagnosis which we should all use, not only in known fractures for the purpose of aiding us in proper reduction, but in the diagnosis of suspected fractures, and you should suspect a fracture in every case of traumatism or in any case which you have been accustomed to call a strain or a sprain. You do not need actual traumatism for fractures of even the femur. The first case we defended in 1910 was in the Upper Peninsula. A man was a filer in a sawmill. His duties consisted in filing a saw which weighed 125 pounds, and when he had filed this saw so all the teeth were on edge, he put it over here and took another. He lifted this heavy saw and swung around without lifting his heels. He felt something sort of snap and give way in his hip, but it didn't pain him. He worked the rest of the afternoon. He walked downstairs and walked a half mile home that night, which was Friday. He went to work Saturday and worked a half day. He loafed around Sunday and worked Monday. Monday night he happened to think that they had a company doctor and it wouldn't cost him anything, so he sent for Dr. Brown. Brown came over and said, "Well, you've got a sprain. You can't have anything else because you've been walking on it for two or three days."

He never made any effort to make a diagnosis. He had a preconceived idea which was wrong. He didn't immobilize the man; he made no measurements; he just told him to go on to work and rub on liniment. He later sent him down to Mount Clemens for treatment with the baths for rheumatism.

That man came on the stand with an inch or an inch and a half of shortening, all the anatomical deformity of an untreated fracture of the middle third of the femur. Small verdict—only $2,000.

We appealed it to the Supreme Court. The Supreme Court said: "We don't know any medicine, but we do know that there are certain recognized surgical methods of diagnosis, none of which was used in this case." There wasn't any testimony that the doctor had ever measured the feet for shortening, that he had ever noticed any eversion of the foot, that he had examined for crepitus, and so the Supreme Court said: "No man is to blame for an error in diagnosis, but he is to blame for a failure to use the ordinary degree of knowledge and skill that obtains in his community in an endeavor to make a diagnosis, and there is no testimony that this doctor ever did."

Within the next two years, thank God that I had the inside tip, I encountered a similar case. Those cases occur. You may get a fracture of the long bones in perfectly healthy people, purely from muscular action.

The great trouble that we have had within the last few years and that occurs several times every year is the attempt to defend a man who has treated a fractured femur without a diagnosis and without any attempt to make the diagnosis by means of the X-ray. The testimony in these cases very often says that this is the testimony of the man, his wife and eleven children: that they all urged the doctor to have an X-ray taken and the doctor said: "No, it isn't necessary, I know my stuff, this is just a sprain," and in several of these instances three to six months later diagnosis had been made by an osteopath. What does that mean? It seems to me there are some of us who are not up to snuff.

Those cases are almost impossible to defend. While there is not a Supreme Court decision on it, we don't want it. But in several instances in the Circuit Court, courts have decided usually, aided by the testimony of some doctor, that it is customary to have an X-ray picture in those cases. Suppose they subpenaed me. What could I say? I am willing to lie for you fellows as far as anybody, but even I have my limits. (Laughter.)

What can you do? That is the current medical opinion, that a man is negligent who does not take advantage of these new things in surgery. We usually compromise those cases if there is an insurance policy behind them, as the best way out of a bad situation. That can all be avoided, and that is the purport of the letter that is going out to call attention particularly to that.

Let me call attention to one more thing. We have a lot of cases that are absolutely unnecessary that are brought as offsets to the doctor's bill. If you and all your members just fix firmly in your minds the fact that we have a statute of limitations in Michigan for adults, of two years, and let over two years go by before you attempt collection of your bills, you will save a lot of trouble.

Mr. Chairman, I think I have talked long enough. (Applause.)

THE TREND OF MEDICINE

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The subject of medical economics is one concerning which many individuals, especially those in the professions, have preconceived opinions. These opinions are probably the basis for much of the controversy that has resulted.

The articles that have been mentioned by Doctor Warnshuis have been appearing at regular intervals in our current publications. It is almost impossible to go through such publications as the *Atlantic Monthly*, the *Forum*, the *North American Review*, the *American Mercury*, *Harpers*, and others for any one month without finding two or three articles relating to medical care. Most of the articles are very critical, and often the authors are very prone to generalize on the basis of very constricted experience. The following titles indicate the critical trend of thought to be noted in the current publications:

"When Sickness Hits the Pocketbook"
"The Blunderbuss of Sickness"
"The Patient Pays the Piper"
"Mammon, M.D."
"The High Cost of Doctoring"
"National Health Insurance"
"Where Doctors Racketeer"
"How Scientific Are Our Doctors"
"The Scandal of Fee Splitting"

This last article was written by a former president of the Ohio State Medical Society, an individual whom the leaders presume is

in a position to know something about his subject. The material in the article is such that any person who reads it, after being referred by a general practitioner to a surgeon, would immediately suspect the motives of the general practitioner because he is presented as nothing more or less than a runner for the surgeon.

To be sure, we find now and then an answer to some particularly critical article but, as is usually the case, an indictment carries much more force than the answer. Since the majority of articles are based almost entirely upon an emotional viewpoint, they tend to build up public opinion which is extremely dangerous to the future of medical care in this country.

A bird's-eye view of our whole system of medical care brings out the striking point that almost a million and a half individuals derive their livelihoods and, let us hope, their satisfaction in work, from supplying the various services. We would expect to find, when we come closer in our view of the system, some cohesion between the members of this great group, some unity of thought, some definiteness of objective, and some likeness in the method of approaching the objective. However, a closer view reveals that almost the opposite of these expectations exists.

We find that the great group is broken into smaller groups, and that these are set off from each other in what amounts to almost water-tight compartments. In one compartment we find the 145,000 physicians; in another compartment, the 65,000 dentists; and so it goes—compartment by compartment. Not only do we find little contact between the compartments, but we also see evidence of antagonism, animosity, and friction between the groups.

If in a still closer analysis we lift the lid from one of these compartments, there is to be noted a cell-like structure, resulting in a further division even within a group. Here, too, are to be found the animosities and antagonisms that prevent unity of thought and action.

This view of our system of medical care is presented because the statement is so often made that medical care in this country is organized. As pointed out by Dr. Harry H. Moore, there is little in the system that deserves the name "organized." This is especially so if we accept the definition of organization as a collection of mental and physical facilities into units, and the further collection of these units, if necessary, for the purpose of supplying services under conditions more satisfactory to both those who supply as well as those who receive them.

Medicine has been criticized because the distribution of the results of scientific research has not even nearly kept pace with the production. It is a fact that during the past half century the machinery of production has been modernized and speeded up until today the warehouses of medical science are bulging with results that should be made available to the general population. It is also true that in spite of this high rate of production the methods of distribution still involve the use of the ox-cart.

The usual answer to the situation as it exists is, "Educate the public." At almost every professional meeting we may hear a clear presentation of a problem dealing with the distribution of medical care. Too often the statement is made that the problem will be solved as soon as the general public becomes educated, and, in some cases, methods for educating the public are also presented. In this connection, during the past few years emphasis has been laid upon the need for the annual examination and the semi-annual dental examination. Great programs of public education have been proposed, and in some cases followed out, to create a public demand for these basic services in medical care.

As one who is interested in the general field of education, I am not at all enthusiastic about any plan that merely proposes to create a public demand for medical service. To create such a demand without at the same time developing machinery to meet the demand is to result in public dissatisfaction.

In this connection I am not thinking of the upper group of our population—the two per cent that, economically speaking, walk a broad boulevard with a wide margin of safety; rather, I have in mind the average family of four that walks an economic tightrope. If in this family there comes an unexpected or emergency need for expenditures, there is no margin of safety and the family crashes. It is this family that must be thought of in connection with the creation of a demand for physical and dental examinations. For the average family, "edu-

cation of the public" means four annual physical examinations and eight semi-annual dental examinations, plus the expenditures necessary for any correction of defects or reparative work found necessary. Therefore, is it reasonable, under our present system, to create a demand which the average family can ill afford?

To determine the trends which may lead toward a more satisfactory distribution of medical care, it is necessary to give some study to the social evolution that has already taken place in this field. Most of the changes in our system have taken place as a result of the tremendous impetus given to scientific research during the past half century. From this research there has resulted a great and complicated mass of scientific knowledge. The effect of this increase in knowledge upon the training of physicians, dentists, and others, is early seen in the tendency to change from the informal apprenticeship to the more formal training in universities and colleges. Gradually the formal training has increased and the apprenticeship decreased until, in the case of medicine, the apprenticeship consists of the one year of internship. In the case of dentistry, all of the training is of a formal type.

With the changes in training a like process occurs in practice. Where originally the general practitioner was the source of practically all medical service, greater study and greater emphasis in research upon particular phases of medical care resulted in the tendency to specialize, until today the division of labor in medicine has been developed to a high degree. Constantly, therefore, the whole structure of medicine has become more and more complex.

As the knowledge of science became more standardized, those interested in medicine realized that certain rules and regulations would be needed for public protection, and the public was asked to set up definite standards governing the practice of medicine. The public, answering in the only way that appeared reasonable, passed laws setting up standards of control. The laws themselves have become more and more complex and the public, probably as a result of legislative controversies, has been called upon in many cases to settle questions concerning the competency of certain schools of medical care. The manner in which many of these questions have been settled leaves much to be desired and does not tend to clarify questions concerning the distribution of medical care.

Apparently it is an inexorable law of progress that human movements shall expand until the very expansion itself results in a haziness of objective. This haziness produces, both within and without the movement, a dissatisfaction, and from the dissatisfaction there comes an effort at concentration and an attempt to clarify objectives. The great movement in medical care has apparently reached the stage of dissatisfaction; the evidences are to be seen on all sides. The physician, speaking generally, is dissatisfied. The same is true of the dentist, the public health worker, the nurse, and the public.

The physician is dissatisfied, on the average, with his income. Time and again the statement is made that, considering the capital invested in training and the effort expended in practice, his income is too low. Of course the public answers the statement relative to expenditures for training by a counter-argument to the effect that for every dollar the physician expends in training, the public spends two, three, four, or more dollars. This is argument; it leads to no solution.

The physician is also dissatisfied with what he terms "encroachments" by public and private agencies upon his field of private practice. It must be stated in this connection that no objective studies have yet been made to determine either the degree or the effect of such encroachments. There are those who state that if there is any encroachment its educational features have resulted in sending far more patients to physicians than have been taken from them. Here, again, we see the circular type of argument that, without factual data, leads only to a waste of energy.

The dentist is also dissatisfied with his income and, though to a lesser degree, fears encroachments upon his field of private practice. Generally speaking, the dentist's dissatisfaction is somewhat less tangible than that of the physician. Dentistry as a whole views the criticisms of medicine and is fearful lest it find itself, in a few years, in the same position.

The nurse is dissatisfied. In the whole economic chain of medical care, it is becoming more and more apparent that the

nurse is the weakest link. In spite of the fact that the cost of her services for the average family is almost prohibitive, the average private duty nurse may expect an income of about one hundred dollars per month. Among all the personnel supplying medical care, the private duty nurse is the only one who has a set upper-limit of income.

The dissatisfaction among public health workers is twofold, and concerns itself not so much with personal income as with conditions of work. Public health workers point to the dividends that have accrued from their efforts and are unable to understand why money for the expansion of these efforts is not forthcoming. The complaint is also made against the lack of interest in preventive medicine and preventive dentistry by private practitioners in both fields. As a result of this dissatisfaction one may see that there have arisen two schools of thought in public health. One school, the smaller, holds the view that preventive medicine must be made available to the population by the state; the other school holds the view that this service should come through the private practitioner, as a result of public demand. Even this second view does not place the private practitioner in an enviable position because there is an implied presumption that preventive medicine must be forced upon him.

Group by group we may analyze the present state of dissatisfaction. It is to be found among hospital executives, among pharmacists, in laboratories, and all other allied fields of medical care.

Finally, we come to the most dangerous dissatisfaction—that of the public. In this country the only method the public has for expressing a dislike is through the process of legislation. In this process of legislation reason too seldom plays a major rôle. Even though man has been called a reasoning animal and reasons some of the time, he is emotional all of the time. If we refer back to the previous titles of articles published, we see the constant appeal made to the emotions. Translated into legislation, the appeal may lead to almost anything.

All of this means that changes in our system of medical care are inevitable. Changes may take place as a result of an orderly progress we call evolution, or as a result of a disorderly or explosive process called revolution. Revolution is never necessary; it is costly, and results in much debris. If we examine the history of any such process we find that the causes were present and observable long before the explosion occurred, and its occurrence was brought about by inattention, wilful or otherwise, to these causes.

In the belief that any changes in medical care in the United States should follow an orderly progress, the Committee on the Costs of Medical Care was organized some three years ago. The Committee, under the chairmanship of Dr. Ray Lyman Wilbur, has drawn its membership from the national professional organizations, lay organizations and the public. The object of the Committee is to make a complete study of our system of medical care. Having completed a detailed inquiry into the structure and function, the anatomy and physiology, of medical care, it is hoped that an analysis of all the data may bring out whatever pathological conditions exist. Upon a broad foundation of facts the Committee hopes to base its prescription for an experiment or experiments to correct the defects.

The results of the Committee's work and its effects upon the professions depend to a great extent upon the attitude of the professions themselves. It will be necessary for each professional group to calmly and objectively analyze the results of the Committee's work. This will be one of the most difficult tasks ever undertaken by the professions because even among scientific men there is a tendency to emotionalize and to base opinions and judgments not so much upon thought, but upon feelings.

In connection with the question of the future trend of medical care in the United States, mention must be made of one great movement now taking place, the movement toward medical insurance. To the average physician in this country, immersed as he is in his practice and in the sciences that control his practice, medical insurance is abhorrent. In a hazy way the subject is tied up in his mind with a system of horrors called "panel medicine." While he often speaks glibly of the panel system, his ignorance of its operation is appalling.

Medical insurance is more than the panel system. It is a world-wide movement, and whether or not the United States will stand like a rock in the path of the insurance flood

causing it to divide and flow to the north and the south is a question for the professional groups in this country to determine for themselves.

The insurance method for distributing medical care had its inception in Germany where Bismarck in 1883 inaugurated the system in the attempt to stop the political swing toward social democracy. Even though the English system was put into effect through the advocacy of Lloyd George in 1911, the movement enjoyed relatively slow growth until the period following the World War. Today it requires more than a snapshot to picture the world status of medical insurance; rather, it requires a moving picture.

According to the most recent reports, twenty-seven countries have adopted compulsory health insurance, and fifteen other countries are operating under the so-called voluntary system. It is difficult to draw a dividing line between the compulsory and the voluntary types of insurance because too often what would be called voluntary in one country would be called compulsory in another. During the past year health insurance was adopted by France, the Netherlands, and northern Ireland. At present commissions in Australia, South Africa, Belgium, Sweden, and in certain provinces in Canada are studying the question. In 1927, the International Labor Congress of the League of Nations unanimously adopted a resolution calling for the early passage of compulsory insurance regulations by all membership nations in the League.

In this great movement it is interesting to note the part played by the medical profession before and after the adoption of medical insurance legislation. When the demand for medical insurance arose, in the majority of the early systems developed in each country organizations such as insurance companies, lodges, mutual aid associations, et cetera, were already in existence and were powerful both politically and financially. The task of interpreting the demand for insurance fell to these already organized groups, since they had been dealing to a greater or lesser degree with problems of medical insurance. As was to be expected, the plans developed and presented to the medical organizations outraged the medical principles of ethics, practice, and pride. The result was, in most cases, an antagonistic attitude on the part of the profession so that the insurance plans developed bore no imprint of medical thought. However, regardless of the antagonism of the profession, legislation was enacted and the profession was abruptly forced into compliance with regulations in the developemnt of which they had had no hand.

It may be said in passing that in a number of instances there were "doctors' strikes," but these strikes were short-lived. A doctors' strike may be broken by the same tactics used in breaking a trade strike. In all probability, the ratio of strike breakers in a professional group is just as high as that in a trade group.

As soon as the earlier systems of medical insurance became operative, the physicians began to organize for the purpose of bringing about changes. The problems were doubly difficult to solve because in so many cases it was necessary for physicians to seek representation on committees already organized. Therefore, the process of change, once the systems were adopted, was and still is a very slow one. The best evidence of this is presented by the changes in the British system brought about through nineteen years of effort on the part of the professions. Almost invariably a few months after the medical insurance system has been adopted the medical sentiment has been "Why were we not prepared?"

It is to be noted that the more recent health insurance legislation bears the stamp of medical thought. The outstanding example of this is the law adopted in France in 1930. In that country the professional groups met the problem squarely, had prepared a program, and, as a result, France today offers an excellent example of a procedure almost exactly opposite to that followed by the professions in Germany and England.

While it may be dangerous to adopt a doctrine of parallel development, when we turn to the United States for an examination of the factors which in other countries led to health insurance, we find all of these factors present. We have here a more extensive system of non-governmental insurance than any other country in the world. Here too are to be found numerous fraternal organizations and mutual benefit associations already supplying medical care on a contractual basis. Likewise in operation at

present we see for the first time the Federal government expending almost a half billion dollars for medical and hospital service for veterans.

Another characteristic development is the operation of a system of compulsory insurance called "workmen's compensation acts." In connection with these acts, there are to be noted practically all of the problems that have arisen under the systems of compulsory insurance abroad. Gradually these acts are being extended to include occupational diseases. Having constructed the fundamental machinery, it is comparatively easy to pass amendments making the laws more and more inclusive. The evolution of workmen's compensation acts is an evolution of words. As soon as the word "accident" is changed to "injury" occupational diseases may be included. Let the word "injury" be changed to "illness" and the machinery is in operation for compulsory health insurance.

Finally, one of the most dynamic ingredients of all is present in this country—that of the previously mentioned public dissatisfaction. Already, as a result of our present depression, there are discussions of various types of social legislation, and the history of social legislation is a history of legislation following economic depressions.

The part the professions are to play in the future trend of medical care is obvious. If there was ever a need for professional groups to pause and objectively study movements in medical care, the need is now pressing. If there was ever a need for forgetting petty animosities and energy-consuming antagonisms, within the professions and between professions, the need is here. Changes that take place may be directed by the professions or there is danger that they will be directed for the professions. While Germany had her Bismarck, and England her Lloyd George, we in the United States have the winds of public opinion and forty-eight legislative weather-vanes to determine wind direction.

Chairman Warnshuis: Thank you, Dr. Sinai.

Dr. Theron Langford (Ann Arbor): I feel that our last speaker has brought us a very important message and presented it very well to us, and I wish we might express our appreciation by a vote of thanks to Dr. Sinai.

Chairman Warnshuis: I am quite sure we are all indebted to Dr. Sinai. He has touched upon only some of the things he has encountered in his work along this line. If there are no objections, will you all arise and convey to Dr. Sinai your expression of appreciation. (Applause.)

The meeting adjourned at twelve-ten o'clock.

THURSDAY AFTERNOON SESSION
January 22, 1931

The meeting convened at two o'clock, Dr. F. C. Warnshuis presiding.

Chairman Warnshuis: Dr. Duffy, of Crystal Lake, is going to show us a few slides on a subject in which he is very much interested and on which he has written very much, the diabetic patient.

Dr. Don H. Duffy: My idea is that the remark of Dr. Sinai this morning about the warehouses of medical information being bulging and the need being that of distribution to those needing it, stresses the thing I have been particularly interested in, trying to make the current diabetic information available to the patient out yonder. It would be very nice if all fractures could be treated by the bone and joint man, all babies could be delivered by obstetricians and all diabetics could be handled down here at the University Hospital or some other diabetic clinic, but it isn't feasible. I feel that if it can be done, my own notion of the solution is a combined meeting, a lay talk for patients combined with a medical talk for doctors, entirely separate affairs, of course. I have felt that it must be made entertaining to the laity in order to get across, and that the spirit to be inculcated by such a talk is the main thing, even more than any actual information, together with selling the patient the idea of getting busy with his own doctor, and, incidentally, giving his own doctor a little punch to deliver the goods when the patient does come.

We have stolen "Dear Old Aunt Het," with whom many of your are familiar. Robert Quillan let us have her. We have stolen her for diabetic purposes, merely as a little sauce for the cooking.

"I been ailin' lately. Drink a sight o' water. No fever. Up a lot at nights. Itch dredful where—" my wife deleted a line there. "Losin' a lot o' weight. Must git some medicine.

"I'm sure it's my kidneys, but that new druggist just don't know his business. He 'lowed this stuff was the best kidney medicine there is.

"Well, I seen Dr. Slapdash. He looked at my

tongue, felt of my pulse, thumped me, said it's my kidneys and liver besides. But his medicine don't do me one bit o' good neither. Amy thinks a karopractor would help me. I sure got to have help somewhere.

"Amy wouldn't give me no rest 'til I took some spine 'jestments. But I can tell her now that them back punchins do exactly as much good as back-bitin', only the bitin' don't hurt so much for it don't cost nothin'. I'm so tired all the time, and so dry. I've a notion to try that Dr. Good, they say he's so scientific.

"These scientific doctors must be too honest or somethin'. 'Stead o' seein' my tongue, he tests my water, then says I got sugar diabetes. He tells me I must never eat nothin' good no more. Admits he can't cure me. He never gave me no medicine at all, yet charged me $2. He wants me to get a book on diabetes. I'd like to know what a doctor is fur. Diabetes is bad, but Dr. Good's dietin' and all sounds even worse. I don't want no diet. I want medicine fur what ails me. Amy thinks Dr. Hokus could cure me.

"I'm doctorin' with Dr. Hokus now. Thinks he can cure me, but it will take a long time. He won't let me eat no sweets neither, but he gives me medicine, and I take him a specimen once a week. I don't see the good o' testin' it, it always shows sugar.

"I'm better when I leave sweets alone. Maybe Dr. Good was right after all.

"I'm back with Dr. Good. He's taught me to do my own testin'. You jes' put one drop of urine and 20 drops of that blue benediction in a glass tube and stand it in boilin' water five minutes. I got one of those books about diabetes. You'd be s'prised how interestin' it is.

"When I kept showin' sugar, Dr. Good had me get a little scales and weigh every speck of my food. Eat jes' so much of each thing. Seemed like an awful mess at first, but I don't mind it at all now, and the sugar is gone. I sure feel better, too.

"Pa's Cousin Eben gave me a catalog of diabetic foods, and I was plumb discouraged to see how expensive they be, but Dr. Good says I needn't eat none o' them things. He don't let me eat near so much meat, but lots o' vegetables and salads. I mustn't eat bread, so we buy soy-beans, roast 'em a little in a cornpopper, grind 'em in our coffee-mill and make muffins from 'em.

"Last week I thought I'd found the cure that Dr. Good hadn't. Got the circulars in the mail—new discovery like insulin, testimonials from them as was helped, 'n everything. No dietin'. I bought $10 worth, but I mighta knowed it, the sugar came back, for all the medicine, as soon as I stopped my diet.

"I know the diet so well I don't bother to weigh nor test no more. A little meat don't hurt me now.

"Jabbed my finger with a crochet hook. It's all swelled up and purple and hurt all night. Now I'm so sleepy and short of breath. I look real well. Amy thought I was rouged. My mouth's so dry. 'Fraid I got sugar, but hate to find out.

"I sure am s'prised to find myself here in the hospital. They say I been here three days. That finger don't hurt now. They had to take it off to save my life. Reckon I never'd a waked out o' that coma if Dr. Good hadn't got right busy with that insulin. I'm still gettin' it three times a day.

"Every time I see the stump o' that finger I vow I'll never get careless with my diet again. A body's a fool to do it. And I never will be scairt o' insulin again if I should need it. But I wouldn't be silly like Pa's Cousin Eben, either, a'takin' insulin without bein' on an exact diet."

This is the poster that we had down at the National Public Health, intended more for professional use. I won't bother you with that. (Applause.)

Chairman Warnshuis: Has any secretary any question he would like to ask?

Dr. R. J. Hubbell (Kalamazoo-Van Buren-Allegan): I was approached the other day by a couple of representatives of our local paper, the Kalamazoo Gazette, and they had some proofs of a publicity stunt that they were carrying on in Flint, Michigan. I was wondering if any of the other counties were doing that sort of thing and what the recommendations of the State Society are.

Chairman Warnshuis: Do you mean the articles that the Genesee County Medical Society is supplying to the Flint Journal?

Dr. Hubbell: Yes. It has just been called to my attention for the first time. They intend to bring it before the Kalamazoo Society at the next meeting.

Chairman Warnshuis: That is in compliance with the recommendations of the report that you heard from the Joint Committee at noon, endeavoring to enlist the local papers in taking up the discussion or printing of informative material on scientific medicine and public health.

As Dr. Bruce informed you, the contract that was had with the Booth outfit which owns that Flint paper, as well as some others, one in Saginaw and one in Bay City, one in Jackson, one in Ann Arbor and one in Grand Rapids, is that we would not give it to any other paper. That agreement has been terminated. As you heard this noon, it is the purpose to supply that same material for every newspaper in the state, that wants it. I think it is Dr. Bruce's intention to enlist the interest and activity of the county society with the local newspapers to secure these daily health columns.

Dr. H. F. Becker (Calhoun): I think the doctor has reference to an entirely different matter. This is a private proposition. We have been approached on it, too, with a series of paid advertisements, copyrighted by some fellow in Ohio. It deals particularly with the manner of paying the doctor what the doctor asks in the way of preparation for his work and how much he asks for it.

Chairman Warnshuis: The question of newspaper advertising is one that has occupied the profession of the country for a

number of years. Newspaper men have been endeavoring to induce doctors to adopt the principle of advertising and to pay for advertising space in the daily papers. The State of Texas in one year spent a little over $30,000 in that advertising campaign, from which Dr. Taylor, the Secretary of the Texas State Association, said he couldn't figure that they had derived one penny's worth of benefit, because, as you all know, it is a difficult thing to advertise the profession, but it is a quest on the part of newspaper management and advertising managers to secure new revenue, and through certain publicity selling agencies they have inspired the preparation of some proof which they are now endeavoring to sell to county societies, and you pay for that space in your local paper.

I wouldn't want to say right now that you shouldn't do it, and yet I wouldn't want to say that you should do it, because it is a dangerous procedure and one that must be thought over very carefully.

Dr. Colwell, will you please tell the local arrangement that you have?

Dr. Clifford Colwell (Genesee): A series of articles, I think thirty-six, one each week, are published in a very fine manner, that is written up nicely. Each doctor pays a portion of the expense. It runs about $1.50 a week for each physician for thirty-six weeks. Our society is in about the tenth or twelfth week now. From what I hear amongst the doctors, there is a little talk about it.

A committee was appointed by the society to coöperate with the editor of the paper to change the wording of these articles to fit the particular locality in which they are published. For instance, in an industrial city they had to be changed a little bit. There is no notice in the paper as to who puts them in. They are in the interest of the society.

The heading on the one this week was: "Is your baby paid for?" That takes up about a third of an ordinary newspaper sheet. It goes on to say that your baby arriving in the home is the most important thing in your life, and a lot of people never pay for it.

Another heading was: "You don't call your garage man or your ice man at two o'clock in the morning. Did you pay them?"

Dr. J. F. Carrow (Tri-County): This is a letter I received from Drs. Earl and Stephen Fairbanks at Luther and inasmuch as it affects the county medical societies, the State Society and the health units of different counties, I brought it here for the purpose of reading it to you gentlemen and perhaps getting some pointers on how to handle the situation.

"In regard to our dues in the medical society, we do not feel like paying this year, for the following reasons: Since the Couzens fund has been working in this county under the sanction of the State Medical Society, our patients are being cared for free or for a small fee or by the fund. Many of these are able to pay for their treatment and should be referred to us. They send in a doctor from Detroit to take car of them when we consider that we are capable of doing the same. This doctor is brought in unbeknownst to us and even against our wishes. Further, this doctor is not registered in this county; neither does he pay any dues here. It looks to me as though we were headed for state medicine as fast as we can be taken. Even the nurse in our county has the nerve to tell people what we should charge, tries to get us to do service free in school, and she takes all the credit, but does not offer any of her salary for help.

"Respectfully yours,
"(Signed) Earl and Stephen Fairbanks."

We have that situation to deal with in our county. I think we have one of the best organized and smoothest working health units in the State of Michigan, in fact in any state.

Not only our health commissioner, but the nurses, are working practically 100 per cent in accord with the other physicians. Of course, we adopted the method of having him meet with us every Wednesday and take luncheon, and if things come up we thrash them out. These are little things, but they are getting less and less. There is less friction all the time. We believe that the health unit in our county has been a grand thing for the public and a good thing for the physician.

If this situation is true, it isn't functioning as it should either for the doctor or the public. I brought it down here to day for the purpose of reading it and getting some advice on it.

Chairman Warnshuis: Dr. Carrow, this matter I shall refer to the Council's committee on Society Activity. I am quite sure they will take immediate steps to get in contact with the Couzens Foundation and correct any of these abuses that are occurring. I am sure that the Council will welcome a report from any Secretary or any county on any of these health activities, whether it be under the Couzens Foundation or, as

our State Commissioner of Health, Dr. Slemons, says, under his Health Department, that are not in accord with the policies and principles of the county society. Report them to me and they will be taken up with the property authorities and an attempt to adjust them will be made. The same is true regarding this advertising. I will refer that to the Executive Committee of the Council, which will act upon it and then through the regular channels you will be advised as to the policy a county society should take if it is approached to take out this advertising material.

Dr. S. L. Loupee (Cass): Referring to this matter of advertising, I haven't any suggestions as to whether it is right or wrong. An incident occurred in my locality very recently which came to me very forcibly.

Returning home not long ago I met a lady of our community who is a very intelligent individual. She told me about her ills and her contact with physicians and those who claimed to be physicians, and she told a story of having employed an osteopath for twelve or fifteen treatments and becoming disgusted with him personally and employing a chiropractor for fifteen or twenty treatments. She got no relief and finally drifted into Detroit and had a diagnosis in which there was evidence that she needed some surgical relief. She admitted she had used bad judgment in selecting her medical advice, and I charged her very little because I knew her pretty well.

She said to me in all earnestness: "Doctor, how shall I know to whom to go?"

That woman was so earnest in it and she was so intelligent that I made up my mind that she represents a large number of people in various communities throughout the state who actually would like to have the question answered: Whom shall I go to?

A large part of the people have before them each and every day the glaring advertisements of the cults, and they go to these people honestly. They think there is where the relief lies.

We are not meeting that kind of competition; we are not meeting that kind of advertising; we are not satisfying the public, because we are not telling the public what we can do for them. I don't know how we can do it, I am sure. I haven't decided in my own mind. I doubt whether this kind of advertising which was announced over here is the right thing. I don't believe it is. I do honestly believe we lack something. Even in the activities of the Committee on Public Health, who are earnestly and constantly endeavoring to put this matter over in a large way with the American public, I still believe they are shooting wide of the mark which gives the honest doctor honest contact with honest people.

Chairman Warnshuis: Dr. Burns, the Executive Secretary of Wayne County, will you tell how you answer those 150 or 200 telephone calls a day asking where they can find a good doctor?

Dr. Burns: We get on an average of six to seven per day. The usual question is very sincere: "Will you give me a list of skin specialists?" Or any type of specialist. We dodge the issue by writing them a letter stating: "We suggest that you go to your family physician and ask his advice about the matter, and if he suggests a specialist, ask him for the list. If you have no family physician, our office is here to help you and we will be glad to give you the information if you will call Columbia 1638."

The reason we suggest their calling us is because we merely wish to protect ourselves and not to give lists of men who may think they are specialists but who the special societies think are not.

Recently Dr. Warnshuis had a good laugh because we received a very beautiful letter on pink stationery with a gold edge, which stated: "To whom it may concern: My husband and I have been married for three years, and during that time we desired no children. Now that we desire a child, it won't work. Please give me the name of a good doctor." (Laughter.)

Dr. R. H. Alter (Jackson): At the last meeting of the Jackson Society, a committee was appointed to investigate the care of the indigent sick on a medical society contract similar to what they have in Iowa. I wonder if there are any counties in the state that have had experience with that and with what favor the State Society looks upon it.

Chairman Warnshuis: The Tri-County Society has done it for a number of years. Yesterday the Council authorized the appointment of a commission that will study the problem, gather details not only from Iowa, but from California and from some of the other states where this plan has been

in vogue, also investigate the matter that is being considered in Wayne County now. They have had several meetings to consider several different plans, and this commission is going to draw up plans and make a recommendation to the House of Delegates at our fall meeting. We hope to be able to have something tangible to offer you along that line. When you read my report made to the Council yesterday, you will see comment thereon.

Dr. W. C. Ellet (Berrien): Is there anything to prevent the county board of supervisors from building a hospital, hiring a doctor and nurse, and sending their indigent cases there instead of to the University Hospital?

Chairman Warnshuis: I suggest that you write to the Attorney General and have him give a legal opinion on it.

Dr. George C. Hafford: I came in a little late and got just the latter part of this discussion on advertising, but I believe it is the same scheme in our county. After considering it there we were in somewhat of a quandary, first as to whether it was proper advertising. For instance, if we would take that class of advertising and put it in a Battle Creek paper, how much benefit would it do to the country doctors in the smaller places? If it was in each of the home papers, its cost would be prohibitive. We finally thought: If this is true, if it is a good thing for all the physicians in the state, why not have it in the metropolitan papers, in the larger cities? Why not pass the thing on to the Council to be handled in that manner?

Chairman Warnshuis: I suggested that I would pass it on to the Executive Committee and they would consider it and make a recommendation to each county society.

Dr. William Riley (Jackson): Is there any cost to that service in connection with the health problem that Dr. Bruce spoke of at luncheon?

Chairman Warnshuis: No, it is the purpose to supply it free, although, as you notice from the report, the Detroit News and the Grand Rapids Press, which represent the Booth syndicate, paid us a little over $1,000 last year for that service.

Dr. Riley: We are contemplating getting the Booth paper at home to take it up, and the question arose as to how long the service would continue, and whether the editor would be justified in discontinuing Dr. Brady's service.

Chairman Warnshuis: We have been continuing the service for three years, and as you learned from the reports this noon of the progress and expansion that has taken place in the work of the Joint Committee, that is a committee that is going to go on and on as long as our society goes on, and that feature will be continued.

Dr. Riley: There is no chance of a double service like two issues of a different nature, is there?

Chairman Warnshuis: That would be a matter of editorial detail. These articles are being written by five men in the state. It depends upon getting the writers to do it. I would be glad to pass it on to Dr. Bruce, and he and his committee will take it up.

When one receives the journals from the various state organizations and reads the reports of the officers and the councils, he frequently finds the declaration that that state society is the best society in the Union. We do not always agree with them, because we from the outside can see some of their defects, and comparing them with ourselves we know they are below our State Society. But there are a few state societies that are hitting the ball and that are accomplishing the work of organized medicine in a manner that is effective and that is making headway.

We have, thanks to its adjacency to Michigan, a state organization that is one of the best in the country, that is accomplishing real work because of the effort expended by certain men of the profession, and we are indeed fortunate to have with us today the President of the Ohio State Medical Society, Dr. Waggoner, of Toledo, who represents a live, going organization. (Applause.)

ORGANIZATIONAL PROBLEMS

C. W. WAGGONER
PRESIDENT OHIO STATE MEDICAL SOCIETY, TOLEDO, OHIO

In a discussion of this kind, one can hardly separate the three great problems involved in the practice of medicine. I refer to the scientific, social and economic problems, and so if at times one of these factors creeps in, it must be taken as a necessary part of the whole consideration.

The practice of medicine is one of the

oldest professions—at different periods, perhaps, called by different names and applied in many different ways by many different kinds of people. If we examine their activities, we find that these people were not only trying to cure disease but were trying to do other things as well, such as preaching, teaching and applying methods to help the physical appearance of the population, the tendency always being the relief of physical pain and mental distress.

It is not necessary for me to trace this art through the ages. You are all familiar with that part. But this is true, that there came a time when the study and application of this special principle became a distinct and necessary part of society and thus in due process medicine came into its own—recognized, depended upon and given great responsibilities, responsibilities that carried the destinies of peoples with them—until Descartes said, "If ever the human race is raised to its highest practicable level intellectually, morally and physically, the science of medicine will perform that service."

True, at first the ideas of medicine were ridiculous, but during those times what ideas were not ridiculous? Man has been more than thirty million years in development and when we stop and think how some people think today we must not be too severe on those thousands of years ago.

There is a great gulf between ancient and modern thinking, and this we find to be true, that no profession rises much above the general level of the current thought or thought of its period.

Mysticism, mystery, credulity and romance and chivalry. No halls of learning where great men proclaimed, just a cot and a patient beside which sat a man in study and observation.

So the time came when the care of the sick from the point of view of administration of therapeutic measures became the sole work of individuals, and as this became a distinct full-time vocation it became necessary for him in some way to be provided a living, in other words the beginning of the economic side of the practice of medicine.

I would like to develop the problems of the early practitioner, general practitioner, if you please, who pioneered and established and put upon a firm basis not only the doctor in his relation to his patient but the doctor in relation to his brother practitioner as well. It may be said of him that he showed us the way to progress and mutual understanding. He tried to show us that if you safeguard yourselves scientifically and economically, yours will be a glorious profession and the people whom you serve will be a happy people.

The doctor went along for some time, always sympathetic and humanitarian, busy with the problems of the sick, careless about his problems at home, until one day an awakening came and he found that the amount of money people owed him could not be called a part of his estate nor could he borrow money from the bank, using this as security; and when too many times he was in the sad predicament of tottering through old age to absolute dependency, it was found that all the while he was discovering ways to prevent and cure disease he was neglecting the business side of his life, with the obvious result.

About this time began an awakening and an inauguration of new era, an era in which men from the outside—laymen—began to show the doctor how he might collect money which he had earned and by proper and sane methods create at least a fair competency for himself and his family when he no longer could produce.

This state of affairs obtained for some time, and the doctor was well on the way to a proper position in his community—a place he should long ago have occupied. There must not be a one-sided development, because if there is then some part suffers; this is not only a biological law but it is also sociological doctrine.

Men and women in the practice of medicine have been taught a different form of service; theirs is a humane, altruistic service; the idea of business principles has never been part of their curriculum. Too many times they have suffered from the lack of this latter training, and it became necessary to arouse a trend of thought that would comprehend all of these things.

And so I may go back to the formula that the medical profession has in the last few years established—a better economic side. It has not harmed the profession; it has made it a stronger, better, more independent and still more serving and more humanitarian profession. And now, in the proud glory of these achievements we stand, not satisfied, but at least rather pleased. But there is

danger in satisfaction, there is danger in being too much pleased with our position, for already in the life of the profession and its advancements is creeping the element of idealism; the element of hyper-humanitarianism; the element which either has lost its vision or has neglected to care, and so we are confronted with the theoretical, idealistic, non-practical system of change. Some change, what? Oh, true, not in so many words, but in so many instances of insidious, inadvertent taking over of a part of the practice that belongs to the profession, by the social welfare workers, by the partly trained individuals in allied professions and then, and most unfavorably, by members of our own profession whose privilege it has been to be designated by the practice of medicine itself as being most especially trained for preventive medicine, public health, and many other of similar nature.

The well-rounded, enthusiastic and progressive physician, as we find him in this country, is the one who is scientifically established and economically sound—I am sorry to say that such a condition does not prevail in all parts of the United States. There are large areas in the less populated parts and small areas in the densely populated parts where the physicians are in a very unenviable position from the point of view of lack of both premises I have just mentioned.

But in proper time this too may be corrected if we (organized medicine) will be allowed to work out the problem as we have been endeavoring for some time.

No one who is honest can say that the doctors are not arriving at a solution. This may be readily understood if our investigations extending over a period of years are carefully studied.

We all know the social unrest that is apparent in the world: the different works of men are attacked and criticized, and, of course, the medical profession, having neglected its economic and political side in the past, now becomes a vulnerable phase in the social structure to attack. Let us see what is going on.

The story is rather a dry one: investigations, reviews, comparisons, statistics and deductions, all in an endeavor to solution.

The episode presents something like this: on the one side the medical profession, the most progressive, hard working, unselfish and altruistic of all professions, businesses or trades.

Example:

1. Cures in last ten years of at least four so-called incurable diseases.

2. Surgery with its advances.

3. Research and twenty-four-hour service.

4. Gives to his fellow practitioner and the people his discoveries and improvements without patent charge or excess of any kind —instruments, insulin, etc.

5. Many medical meetings each year—postgraduate work.

6. Public health measures that have eliminated many epidemics, all given and used without patent or restriction.

And on the other side, a group of so-called uplifters—welfare workers, some magazine contributors, etc., who if it became immediately necessary by individual competitive work to maintain themselves would starve to death. These, holding jobs, many of which are communistic when their effort and intent is analyzed—saying words and spreading their peculiar and pernicious propaganda that the doctors are paid too much for their services.

Unfortunately, we hear too often of some doctor who has about finished his work and either does not or does not want to remember some of his hard times, giving expression which is working a hardship on a profession that made him what he is.

Let us examine more closely some of the elements put forth.

First, what are some of the responsibilities of the practice of medicine? And how do they compare with any other special activity?

In the first place, I think that until we are positively sure where we are going after we are through with this life, doctors who are able to prolong the stay on this sphere are just about as necessary as any force that one can think of. This being true, is it not then only just, that of the world's rewards, this class of men and women who contribute to life's welfare and length should receive their fair share?

There are approxmately 150,000 doctors in the United States.

The time allotted this paper does not permit a tabulation of the numbers of men and women engaged in other professions, etc.

The direct cost of medical care can be estimated fairly accurately:

	In millions of dollars	Per family
Patent medicines and drugs	700	$25.00
Physicians	650	24.00
Hospitals (civil)	380	15.00
Nursing (all forms)	200	8.00
Dentists	150	6.00
Non-medical practitioners	50	2.00
Total	2,130	$80.00

"The direct expenditures represent a little over two per cent of our national income. That the figure of an average expenditure of about $80.00 per year per family for all forms of non-governmental medical care is reasonably accurate is indicated by the studies of different population groups in the country which have shown that the average amount spent by families of wage earners is about $60.00 per year, that for farmers is about $62.00 and for office employees about $80.00 per family."

"The total expenditures are obviously great but they are significant only when compared with other items of our national expenditures and with the capitalized value which they aim to protect. A few illustrations of our national expenditures follow:

	In millions of dollars	Per family
Passenger Automobiles	4,000	$150.00
Tobacco	1,800	67.00
Candy	1,000	37.00
Gasoline (non-commercial)	1,000	37.00
Movies, entertainment	930	35.00
Soft drinks, ice cream, gum	910	34.00
Jewelry and furs	780	29.00
Radios and musical instruments	440	16.00
Sporting goods, toys, games	430	16.00
Perfumes, cosmetics, toilet soap	410	15.00
Total	11,700	$436.00

These expenditures total about five and a half times the total cost of all non-governmental health services. The amount spent for tobacco is almost three times as much as that for physicians. We spend a great deal more for candy than we do for doctors. Our expenditures for entertainment are twice those for the maintenance of all civil hospitals. We spend twice as much for perfumes, cosmetics and toilet soap as we do for nursing. The explanation of that situation is not difficult to find, for the people of the country buy what they are taught to buy and $1,500,000,000 is spent each year in that education by means of advertising. The country spends $3,000,000,000 a year in maintaining prisons, police courts and other machinery for the prosecution and prevention of crime but in spite of that the value of goods stolen each year equals the sum spent."

"It has been estimated conservatively that the vital or human value of the American people, if one wishes to express its monetary value, is about five times the material wealth of the country. The latter is over 300 billions of dollars, which means that the expenditures for all forms of medical services is about 0.2 of one per cent of the human value. That is not a large amount to spend for protection and the intangible benefits received. In fact, there is every reason to believe that the present expenditures for medical care may be insufficient to guarantee an adequate service. Certainly they are reasonable.

"During the last sixty years, the number of gainfully employed persons in this country who were in agricultural pursuits has dropped from 47 per cent to 18 per cent. The contributions of agriculture to the national income has also dropped from 26 per cent to 9 per cent. Not only is the drop in gainfully employed and in contributions to the national income of significance but it should be noted that whereas 18 per cent of those gainfully employed are still in agriculture they produce only 9 per cent of the national income."

In a recent report sent out by the Committee investigating the Costs of Medical Care, the highest income was $70,000 and the lowest was a deficit of $2,600.

"The average net income for physicians in several types of communities is as follows: rural, $3,284; towns of 5,000 to 10,000 population, $4,800; cities of 50,000 upward, $7,022; metropolitan centers, $7,125; and industrial centers, $6,235. It showed the average net income of physicians in several age groups to be as follows: in practice 5 years or less, $3,980; 6 to 10 years in practice, $6,524; 11 to 20, $7,394; 21 to 30, $7,313; 31 to 40, $5,884; and 41 to 50 years in practice, $2,470."

The Committee on the Cost of Medical Care recently put out a bulletin as follows:

"There are each year in the United States about 130,000,000 days of illness—an average of a little more than one day per person."

"There are approximately 1,500,000 persons employed, full time, in the care and prevention of illness, of whom 150,000 are

physicians, with some 32,000 other practitioners—chiropractors, osteopaths and the like."

"There are 7,310 hospitals in the United States, built and equipped at a capital cost of $3,125,123,000, exclusive of $437,000,000 of endowment, and having 904,934 beds, which care each day for 700,000 patients."

"There are in the United States more physicians per 100,000 people than in any other country in the world. Their geographical distribution, however, is decidedly uneven. In 1927 South Carolina and Montana had only seventy-one physicians per 100,000 people; California, at the other extreme, had 200. Too, the number of physicians in general practice is comparatively small. It has been estimated that 11 per cent of all the active physicians in the country are employed full time on a salary basis. The number of specialists is growing steadily—more than 19,000 of our practitioners restrict themselves to special fields and 20,000 others practice some specialty, although not limiting themselves to it.

"The same uneven distribution marks our hospitals. In Wisconsin there is one hospital bed for every 154 persons; in South Carolina, one bed for every 749 persons. Smaller cities have, in proportion to population, fewer hospital facilities than larger cities.

"Must the physician apportion sickness?"

"It was shown that the average net income of general practitioners is almost half that of specialists, the ratio having been $5,084 to $9,577; and that the number of general practitioners earning less than $5,000 is almost double the number having incomes above that figure. The proportion of specialists to general practitioners ranged from 1 in 36 in rural communities, to 1 in 3 in large cities."

I want to say that I believe very firmly in the American theory of government. Some people do not. They have that right. The founders of our government were very profound political philosophers. The ideal government is a government that does not control the individual, and sees to it that no one else does.

That government is best which governs least. It is the function of government to try to put itself out of commission as far as dictating or controlling individual activities. Every man has the right of life and the right to live in the pursuit of happiness, which means regulating his life according to his own ideas. Governments are instituted for what purpose, to tell people what to do and make them do it? No. To restrain and restrict? No. Governments are instituted to allow individual freedom. That is the American philosophy. In his life and activity, in his industrial activity, in his social activity, in all of his activities, in that circle man is king. That is individual freedom.

Back of that philosophy is this: that the highest social order is obtained through the largest possible freedom. So what constitutes a strong government is by keeping government at a minimum. The weaker the government is, the stronger it is, and the stronger the government, the weaker. No government in modern times emphasized strong government more than Germany. Make the government strong, that was their philosophy. The individual must be subordinated. And they believed it was for the best interests. But when the vital test came they discovered, when it was too late, that their government was very weak. When the crisis came it went all to pieces, with the Kaiser gone to Holland and everything else gone pellmell."

The way to make a government strong is to protect the individual in his rights.

The price of freedom under the American government is independence.

"The function of government from an American point of view with reference to business, medicine, religion, or any other activity, is similar to the function of an um-

	Gross Income	Net Income	Expense of Practice	Savings	Living Expenses
Rural Practitioners	$ 5,727	$3,284	$2,443	$1,257	$2,027
Doctors in Towns of 5,000 Population	7,513	4,800	2,713	1,549	3,251
In Towns of 10,000 to 25,000	10,207	6,369	3,838	2,706	3,663
In Cities of 50,000 upward	11,379	7,022	4,357	2,639	4,385
In Metropolitan Centers	11,227	7,125	4,102	2,203	4,922
In Industrial Centers	9,921	6,235	3,686	1,468	4,767
Average for United States	$9,329	$5,806	$3,523	$1,970	$3,835

pire in a football game. It is never the function of government to coach. It cannot practice medicine or tell you how to practice it. The function of government is to see that you play the game straight with each other. The function of government in business is not to go into business. The only place the government has in business is to see that they play the game straight, that no individual or group tries to deny any other individual or group freedom. The only excuse of government for entering at all, the only function it has, is to see to it, when it is necessary, that we play the game straight with each other and with the public, as referee or umpire.

"Now the doctors. People demand costly service. Did you ever think of that? And they are responsible for the larger part of the cost of any service. They want specialists in everything. It is the overhead, and the people make the overhead. I think if a great many people knew the overhead expenses of the doctor they would see why they must pay fees. Modern life demands that everyone in the profession shall spend a lot of money. The people demand it. The government can give it. The government has unlimited resources. And if it practices medicine your money in taxes is your competitor. But the doctor has overhead expenses and it is not a matter of choice with him whether or not he should give his service. My friends, to be honest, there never was a time in the history of our country when such efficient medical service was within the reach of so many people as today. To the extent that the government enters that field and fights the men who are responsible for it, you handicap them and tend to destroy the profession."

The last and most serious thing is this, that free service tends to pauperize anyone who gets it. That is the reason that made it unconstitutional to give anyone a special privilege, because they did not want to destroy them. This thing of uplifting is a pretty good theory, but when they are uplifted they won't stay put. The more you do the more you have got to do. The prime function of every charity is to put itself out of commission as soon as possible. Progress in charity is to do away with charity. The ideal city is the city that has no charity. There is hardly anything so deadly to human character as that. There is hardly anything more deadly to manhood and womanhood.

Mr. Chesterton commented: "You were speaking of the panel system and of state medicine?

"The panel system is fatal. It is a fatal system. By it the country is divided into classes of masters and slaves. It is further a direct attack against the liberty of the poor, and though it is an attack in a conservative garb it is none the less a menace.

"The panel system of medical practice or its allied systems is merely the delegation of the practice of medicine to a group of people in buttoms. I am against people in buttons interfering with the rights of any man. The theory of the rational modern state is against bureaucracy. The dole is a tragic thing. So is any measure that metes out a perpetual interference with individual rights, and the free contacts of a citizenry. Which is exactly what the panel system of medicine does. It removes from a class of people the right to make free contact for individual necessities.

"It is an evil thing when you class and codify and put into a system of law a recognition of employers and employees as variant classes to be so shown under any constitution. It is an evil thing to deprive the poor of the privilege of choice and to make of the people a sort of serfdom."

"The world," remarked Mr. Chesterton, "is in danger right now of getting up in an intellectual tree through the utterance of far too many platitudes. And don't forget that in England there is a most entirely different meaning taken from the word 'Socialist' than that which maintains here. With us over there a socialist is apt to mean a vaguely humane person. Here in America it inclines more towards the violent."

Is the answer State Medicine?

Twenty-four countries now have compulsory State Insurance and in those countries we have seen a vast deterioration of the doctors and the loss of leadership in scientific teaching and demonstration.

1. State medicine is an enormous expense to the government.

2. State medicine encourages perfunctory, inferior service and inadequate medical treatment. The doctor receives compensation whether his treatment is good, bad or indifferent.

3. State medicine develops large numbers

of neurotics who run to the doctor with every conceivable ailment, whether real or imaginary.

4. State medicine will result in an enormous increase of quackery aud cultism. Homer Folks says quacks now cost us $120,000,000 annually.

5. State medicine would cause the people to lose their right to select their own doctor.

6. State medicine undermines initiative, does not recognize merit, forgets the stimulation of medical research, and tends to paralyze medical progress.

7. Finally, state medicine discourages the ambitious youth from the study of medicine and leaves the field to men of inferior rank.

SUMMARY

1. The practice of medicine in the United States is humanitarian, one of the most progressive and the most self-effacing of the works of man.

2. The men and women in the practice of medicine, as men and women in any other vocation of life, must, to exercise their individuality and initiative to the greatest achievement, be allowed a freedom in competitive application that will make for reward and independence.

3. Most criticism is not so much of quality as distribution of physicians.

4. The doctors are not paid too much for their services.

5. People are getting more for their money today than ever before.

6. There is unnecessary cost by people who demand examinations and specialists when not needed.

7. Eighty per cent of sickness should be taken care of by a competent practitioner.

8. Only fifty per cent of patients in general hospitals pay a doctor's fee.

9. Education of the physician must continue.

10. Group medicine in some communities will solve some of the problems for the people but will work a hardship on doctors who are not in the group.

11. Tax supported institutions are unfair competitors in relation to general practitioners.

12. Preventive medicine must go hand in hand with the practice of medicine.

13. We must, as social conditions change, rearrange some of our economic conditions —standardization must be upward, not downward.

14. High pressure advertising and instalment business arrangements have contributed more than any other factors to our present dilemma.

15. Charity is not charity, unless it has a tendency to eliminate itself; this applies to dole, paternalism and any other form of subsidy.

16. There are hundreds of "funds" and foundations studying the economic side of the practice of medicine and many of them are now, by contract methods, competitors of the private physician.

17. Mistakes, statistics published by men of their mistakes in diagnosis, etc., have given our critics much ammunition and aroused much lack of confidence in the layman; judges differ—even the Supreme Court is many times divided in its judgment.

18. Paternalistic or communistic medicine will not stop at practice of medicine but soon will become a general movement.

19. Most government controlled departments are operated at a loss—Post Office Department, Shipping Board—and while the government operated the railroads there was a loss of millions yearly.

20. Most statements of our critics are statements of opinion, not of facts.

21. The time arrived some time ago for organized medicine to stop compromising and begin energetic, forceful and relentless opposition.

22. Contract practice (unless for educational purposes), lodge practice, dispensary practice, etc., with inefficient supervision must be eliminated.

23. An ideal, hoped for but not possible, would be if all the doctors would stick together, then in a short time all these problems would be solved.

24. National, state and county societies must have more meetings devoted to economic medicine.

25. Leadership—political, economic, and scientific—leadership that has had the experience and has the tempered judgment but still retains the enthusiasm and courage of youth.

Chairman Warnshuis: Dr. Waggoner, I am sure we are all very grateful for your time in coming here and the contribution you have made to our program. Your paper is going to be printed in our Journal. I know we will all read it again with profit.

We will proceed to the next subject, one that is of vital interest to every doctor as well as to every County Secretary, and that is our legislative program. Each session of the legislature presents a new angle, a new problem, dependent upon the party that is in power, the political forces, the political controversies, with these conditions we have to adapt our policy of defense.

We have appointed as a State Committee on Legislation an able group of men. They are men who are and will be continuously active in protecting the interests of the profession and of the people, in the relation of legislation to public health.

One of the most active men on our Committee, not only for this year, but for years past, has been Dr. Whittaker, of Detroit, at present a member of the Legislative Committee of the Wayne County Medical Society, and the Secretary and the active man of the Legislative Committee of the State Society. Dr. Whittaker is going to talk to you now on our legislative problem.

Dr. A. H. Whittaker (Detroit): In bringing this matter to your attention, I am going to take just a few minutes to try to describe a few of the things that bring up these legislative problems, and after that I am going to explain to you the actual detail into which we go over the machinery we have set up to try to carry on this work.

This is the work of the whole Committee and not of any particular one of us.

Dr. Whittaker read his address.

(To be printed.)

Chairman Warnshuis: That is just the plan of the Committee, to work as you have been doing, with every representative in the legislature.

There is one man in the state who is wielding a big stick, and he is doing it in an effective way. I am going to terminate this discussion by asking that big-stick wielder to tell you one or two things. Dr. Robb, the president of the Wayne County Medical Society, who is doing things in a legislative way in Detroit. (Applause.)

Dr. J. M. Robb (Detroit): I am particularly interested in seeing that some of the things that we think are for the best of the community are taken care of. We have had in Detroit this year, because of the depression, probably a worse condition than some other places.

The first thing we were informed of was that they were going to have an oratorical contest on state medicine in the city schools of Detroit. Naturally that necessitated rather promptly some thought of intervention, because the facts are that the mind of youth is not capable of analyzing the thing that we are having difficulty with. We simply asked them if they would pass that up this year, and that was done. There was no discussion of state medicine in the schools of the City of Detroit.

Immediately they wanted to establish a radio ordinance whereby all electro-magnetic machines would be put out of commission after seven o'clock at night, until twelve, that is all X-ray machines, diathermy equipment, etc. That also was an obstacle, not only to the doctor but to the lay person. The facts are that people working in an industrial concern may have to come to the doctor at night. We were giving them a service by staying there at night with them. Nevertheless they were trying to accomplish this, and they probably had in the background some concern that was attempting to sell a silencer. This was stopped.

Then the problem of a moratorium on doctors' bills came up. That was very nicely taken care of. They saw very promptly that the thing was not justified.

A few days ago, one of our profession, a young man who came from Virginia some time ago, was unable to pay all of his telephone bill. He went down to see the local office and they told him that if he couldn't pay it they would have to cut the line off, which they did. Naturally that also caused a little disturbance, and in a couple of days we had his telephone connected.

The facts are that if you keep on the qui vive you can avoid these things. If you keep on your guard and keep in contact with the men in your community and talk over some of the problems to show them that you are actually interested in organized medicine, they will give you all the support in the world.

I have found that out for myself in the past by coming in contact with some of the friends that I have in Detroit. When you actually take your position, take it firmly, if you need to, because the majority of times the doctor's position is a good position. They will find in time that many of these schemes, that they have in a rather puerile brain—pertaining to medicine, perhaps not to other things—if permitted to go

across, in time will react badly on the people, even though not on organized medicine.

I hope, when Dr. Whittaker's questionnaire is received, you will give it consideration and pass it on to all the members of your local society and keep after them until they fill it out.

Any success I have had in my efforts is due to the fact that I am the most persistent creature in the world when I start at something, and I think that is all you need to do.

Chairman Warnshuis: Dr. Robb very modestly has set forth the activities he is exercising as President of the Wayne County Medical Society. I just wish he had been a little more open and frank in telling you what he has done. He represents and reflects the type of officer that we need and require in every county society. The teamwork of the President, the Secretary, and the Public Relations Committee can accomplish the things that Dr. Robb has indicated in just a few of the incidents he has encountered in the City of Detroit.

I want to remind you again of the confidential bulletin that will come to you on our legislative problems. When they do come to you, see that they are answered or complied with, because that is the only way we are going to succeed in solving this legislative difficulty.

A County Secretary, after he serves a while, maybe one, two, three, or five years, becomes valuable, and then for some reason or other he retires. It is always customary, upon retirement, to render a valediction. Dr. Riley has been a most efficient Secretary of Jackson County, as you know. He has retired this year. We are going to give him the opportunity of delivering his valediction to this County Secretaries' Conference in talking on the subject, "The County Society Program."

Dr. William Riley read his address.

IMPORTANT FACTORS IN OPERATING A COUNTY MEDICAL SOCIETY

PHILIP RILEY, M.D.
Jackson, Michigan

The problem of operating the County Medical Society to the mutual satisfaction and interest of all its members is not as difficult as it might seem. While it is impossible to keep everybody satisfied and everybody interested, with a little effort spent in the right direction, between 80 and 90 per cent of your members will become interested and take an active part in the workings of the society.

For practical purposes I have divided the subject into two subheadings: Business and Social. From a business standpoint, the first thing to consider is the time and place of the meeting. Medical Society Meetings should be held at the same time, in the same place and regularly every month, with the possible exception of the summer months. Attending the County Society meeting should be a habit with the members. It will become a habit and grow on them if the meetings are held regularly.

In Jackson County we meet once a month, on the third Tuesday evening of the month. The third Tuesday has been chosen because the first and second Tuesday evenings are occupied with hospital staff meetings. We have adhered so closely to this meeting night during the past three years, that the Third Tuesday has come to be known as County Medical night even among the laity. Outside functions where Doctors are supposed to attend, have changed their date because of the meeting of the County Medical Society. We start our meeting off with a dinner at six fifteen, and we start on time. The dinner is followed by the business meeting and program. The meeting is usually over with by 9:00 o'clock. If one has work to do this leaves him time enough to do it in. Or if he must take the family out for the evening he still has time in which to do it. We hold our meeting at a centrally located hotel which has ample parking space.

The next thing to consider is the program. A good speaker should be on the program. He should be one who is able to keep the attention of his audience. A man with fair knowledge of his subject, but a good command of oratory is a far better drawing card than a genius who can't explain what he knows. The speaker's subject should be one of interest to the general practitioner. If it interests him, it should interest the specialist in his secondary sense. Eighty-five per cent of your membership are general practitioners and the meeting should be conducted principally for their benefit. The subject should not be too technical. It should be of such a nature that the average man will be able to leave the meeting and carry home something of a practical value: that is, something that he

can take back to his office and use in his daily practice. The meetings should be snappy. They shouldn't take over two hours. With many men more work is done after 4 P. M. than before. For this reason and many others the meetings should be short.

The Secretary of your society should keep abreast of programs which are being held in other cities. He should also watch various society programs which are being held. In doing this he will often be able to get a man en route to one of these meetings to stop off and give his paper before the County Society. If he hears of a good paper having been given in a neighboring city, that is a good reason for getting that speaker on your own program. Unlike the movies, you do not need first run talks. In fact the more they are given the better they are.

The next thing to consider from a business standpoint, is what are you going to do to boost your attendance? To my way of thinking, a dinner is your best bet. When a man's stomach is filled with good food, he is more or less contented. However, no matter how good the food may be it is difficult to get them to come and eat it. The method we have used in getting them out in Jackson is to sell tickets in advance for the dinner. Our dinners cost $1.50, therefore, we sold the tickets for $1.50. Our theory in this regard is, if you get $1.50 of a man's money for food, he is sure to come and eat it. We started this system three years ago. A live wire chairman was appointed for each month. It was his duty to go out and sell as many dinner tickets as possible and get the money for them. We set as a minimum figure forty tickets. Most of the time the Secretary had to help him out some. But at any rate we kept at it until forty or more tickets were sold.

As every month passed by, these tickets were easier to sell. The members enjoyed coming to the meetings. When we were sure of a good attendance, we did not hesitate to ask anybody we wanted for a speaker. Last year we tried a new stunt. We sold season tickets for $10.00 apiece. This ticket entitled one to seven monthly dinners. It did not include the June and December meetings. This idea met with great favor. Before the January meeting, forty-two of these season tickets were sold. About ten of our regular good members did not buy them because they were in Florida or going to Florida for winter vacations. I say these were ten of our good members, because they were men who always came to the meetings. Our average attendance at meetings last year was fifty-six. Naturally we are quite proud of it.

Another attendance booster is a monthly bulletin. I started this bulletin in January, 1928, copying the idea from the Calhoun County Medical Society. On the start it was a lot of work to get this bulletin out, but as time passed this, too, grew easier. On several occasions when I was about to abandon the idea, a good booster letter from a neighboring colleague would come along praising the bulletin and stimulating me to keep on with it. In this bulletin the minutes of the previous meeting were printed, as well as other Medical Society business and news. The members read this bulletin. It was short so that they read all of it. It did much to increase their interest in the County Society. Students of medicine, as you know, learn more through their eyes than through their ears. When they read the minutes of the previous meeting in the bulletin they paid more attention to it than when they heard it read at the meeting. I do not think it practical for County Societies with less than forty members to print a bulletin. However, for societies with more than forty members to print a bulletin is a great interest stimulator.

One phase of County Society work which is often neglected, is the selection of committees and committee chairmen. The chairman of a committee is an important assignment. He is the bulk of your committee as well as its guiding force. He is responsible for the committee's action, and many times the report from this committee is, in reality, his report. I mean by that, that the balance of the committeemen are more or less "yes" men. The chairman should be chosen by his ability and willingness to do things. Not because he has been a member of the society for a number of years, nor because he represents a certain faction or group, but he should be chosen on his ability to deliver the goods. A good chairman means everything to a successful committee.

I am a firm believer in small committees as opposed to large committees. Large committees are unwieldy. They are hard to handle. It takes too long to mold a large number of opinions and ideas into one concrete report. On the other hand small com-

mittees are easily gotten together. It is far easier for the various members to put their ideas across, and it takes less time to get a detailed report made up. For all practical purposes, the committee of three is the best. When committees have been appointed and a definite date given for them to report, the chairman should be asked for a report on that particular date. If you appoint a committee to delve into some particular matter and then never ask them for a report, your committee men will lose interest. They will lose interest not only in the work assigned them but also in the general workings of the society. Sometimes it is a good idea for the secretary of the society to jog the memory of the chairman of that committee a week or so before it is time for him to render a report. These are little things which on the surface seem of a minor detail. However, they are of grave importance in keeping alive the individual member's interest in the County Society. In the aggregate, they are of major importance to the workings of a county society.

The social side of a County Medical Society is just as important as the business end of it. Far too often this has been neglected. Men who mix and mingle socially are friendly with one another. As a rule they will not stoop to that low level of destructive criticism of their fellow colleague. They will work together in harmony and they will coöperate with one another. Among this class, pilfering of patients is almost unknown. And when a patient does decide to change doctors, as they will do now and then, it is open and above board and there are no ill feelings on either side. This is quite a contrast to conditions as they were a generation or so ago. In those days when one changed doctors, it was quite common to hear the new doctor say, "Throw that medicine out immediately before it poisons you any more. It's a good thing you called me when you did or you would have been dead in another twelve hours." Such a statement appears as a joke today, but nevertheless it has been said many times, and it wasn't intended for a joke either. Another example of the lack of friendly feeling, which was dominant in the days gone by, was the unwarranted criticism of fracture results. If one cares to he can nearly always sow seeds of dissatisfaction in the mind of his patient about the result he has from his broken arm. He can readily feel the superfluous amount of callus around the site of the fracture, and with a little mental suggestion be convinced that the result is a bum job. Such destructive criticisms are stepping stones to malpractice suits. The people of this day and age are getting to have a mania for lawsuits. If they can get something for nothing they are out to get it. The number of malpractice suits is on the increase. This is a strange anomaly when you stop and consider that medical students today receive approximately four times the amount of training that they did in former years. The doctors themselves, with their destructive criticism of one another, are in a great measure to blame for this situation, and it is up to the doctors themselves to change it. The promotion of friendly feeling and good will, will do much to alleviate this situation. There is room enough on this earth for all of us to earn a good living by our own honest and sincere efforts, and not at the disparagement of our colleagues. We can promote a friendly feeling among the doctors by devoting a little time to the social side of our lives. The County Medical Society is the unit to which this duty belongs.

When you have a County Medical meeting, a social crowd is always easy to handle. Necessary arguments are of a friendly nature. The jokes that are pulled, and the tales that are told, provide entertainment and help make the evening more pleasant. It is easy to sit through one of these meetings and the members enjoy coming to them. There is a noticeable absence of internal strife. The men do not gather in cliques. They will sit down and eat their dinner, and enjoy visiting with their neighbor on the right or left regardless of who he may be, and the best part of it all is they will all enjoy it. If your medical society operates in this fashion, you need never fear that it will break up and disband. It can't do such a thing because the members are all working for the good of the society, and they see and know that the society is for their own good.

There is a problem which confronts every society, and that is, the disinterested member. Many men feel that these fellows should be ignored or forgotten, and allowed to tag along like a tin can tied to the rear end of a car. But as for myself, "I grees wid Andy, that is sumpin." How to awaken interest and instill enthusiasm into these members is no easy task. If they would but

come to the meetings, most of them would become interested. But these are the fellows you can't drag out to a meeting. If you appoint them on committees, thinking that this will enliven their interest, you will have another guess coming. They will take the appointment as a joke, will do no work on the committee, the committee is a failure, and your effort is as good as lost. In fact they sometimes dampen the ardor of good members who are on the committee with them. If you elect them to office you are in danger of sending your society back to the limbo of the forgotten past from whence it came. From the business standpoint of the society, they are least harmful on the shelf. However, I think the social side of the society life has something of promise to offer. By persistent persuasion and intelligent perseverance it is sometimes possible to drag some of these members out to a bowling match, or a near-beer party or a poker game. Every one of these members has a weakness of some sort, and if you can find it and touch upon it, you will get him out of his shell. If he comes once, he will come again and the second time will be easier. After this member has been to a few social sessions, with a little persuasion, he will come to a combined business and social meeting. When you have gotten him this far you have climbed the hardest hill. He is becoming interested. Bringing him the rest of the way still calls for more work but the task is not so difficult. It is then possible to assign this man some of the society work with good results. Make him chairman of a meeting. Let him procure the speaker and let him preside at that meeting. You may have to help him to get the speaker, but help him to get a good one. And after the meeting is over, compliment him on the good work he has done.

The entertainment portion of a County Medical meeting is like dessert to a dinner. It is better to have it come last. It matters little what form of entertainment you care to have, whether it be a bowling match or a card game or what not. It can be part of the meeting or it can be divorced from the meeting. However, I think some attention should be given to this phase of the work. In Jackson, bowling has come into prominence during the last few years. Our meetings are usually over with between nine and nine-thirty P. M. After that about twenty-five to thirty of us adjourn to a bowling alley. The alleys have already been reserved for us, usually six to eight of them. Two captains are appointed and a coin flipped for first choice. Two teams are chosen in much the same fashion as base ball teams were chosen on the sand lots in the good old days. There is plenty of friendly argument in this choosing process, and no one's feelings are spared. A man can not be sensitive about his ability to bowl and not have his feelings hurt. As members are chosen on respective teams they all want to give their advice to their captain as to who should be chosen next. When this process is finally over each team takes three or four alleys and the war is on. We know no ethics except the ethics of razz. If you can talk the opponent out of a shot, or rattle him so that he picks a cherry, or gets a miss, so much the better. Three games are bowled and the team losing the rubber pays for the entertainment. The captain on the winning side is always stuck for a five-cent bottle of pop for both teams. It is hard to appreciate the amount of fun we get out of this bowling. It is a definite fact, that many times fellows come to Medical Society meetings and staff meetings, just so they can bowl afterwards. We also have this bowling match after hospital staff meetings, and on Thursday and Sunday afternoons, starting at three o'clock. There is no doubt about it, it is a riot of fun. There are no ill feelings over the outcome. It brings the men together three times a week and they all get to be close friends. Many a time, one has something to take up with another doctor about a particular case. This bowling match provides the opportunity for them to meet and talk it over. All in all, I can not recommend it too highly for the social side of your County Medical life.

Some of our members do not care to bowl, some of them have lame backs and some would rather play cards. This crowd usually gather after the medical meeting in somebody's office or home for a little pasteboard pastime. I can not tell you so much about these parties as I never attend them. However, they are very popular with some of the boys.

Probably the most popular of all entertainment is the occasional near-beer party. We have one every once in a while, usually at a road house outside the city limits. There is no medical business transacted at these affairs, but there is plenty of business along other lines. When we have one of

these sessions the sky is the limit on everything from rum to roulette. Last Thursday night one of these affairs took place. We had a pig hock and sauerkraut dinner with all the accessories. It started at five-thirty. We had fifty-five there. Supper was served at six-thirty. When I left at eleven o'clock there were over twenty-five members still trying to stage a comeback, or to get more while the getting was good. These parties are always a huge success. "Sweet Adeline" seems to be the sweetheart of everyone. We never need to sell tickets in advance for these meetings, and we always have a good attendance.

In the summer time we play golf much in the same fashion as we bowl in winter. About forty of our members belong to the Jackson Country Club. You do not need to have a pre-arranged match to play golf. If you get out to the club at 1:30 on Thursdays and Sundays, or 3:30 or 4:00 on Tuesdays and Fridays, there is always some one to play with. Sometimes we divide up into teams as in bowling, then again we play in individual groups or foursomes. We do not take the game seriously and play more or less for the fun there is in it, and we do have a lot of fun playing. Like the bowling, golf provides another meeting place for the men to get together. This constant association of one with another does much in promoting a friendly spirit. With an abundance of friendly spirit such as this, there is little or no room for strife. By the combination of golf in the summer time and bowling in the winter, our members are meeting socially two to three times a week, the year round. They look forward to these meetings and plan on them. With the spirit such as this prevalent it is easy to hold regular well-attended medical meetings.

Another factor in boosting the County Medical Society, which comes last, but by no means least, is the Ladies' Auxiliary. I do not know who conceived the idea of a Ladies' Auxiliary, but at any rate he was a smart man. In Jackson County we have a very active Ladies' Auxiliary. The ladies meet on the same night as the County Medical Society. They have a pot luck supper which is followed by a little program and bridge. I know of cases where the wife has sent the husband to the medical society meeting because she was going to the Ladies' Auxiliary meeting. Again the wife is so busily engaged in getting something ready to bring to the auxiliary meeting that she forgets all about her husband going out for the evening. And as a result one more family argument is done away with. All in all, an active Ladies' Auxiliary is a decided boom to making an active County Medical Society.

In conclusion, I would say that the successful operation of a county medical society depends upon—

1. Regularity of meeting, time and place.
2. Good speaker on a subject of practical use to the general practitioner.
3. Snappy meetings preceded by a dinner and reported in the bulletin.
4. Careful attention to the selection of committees.
5. Promotion of social activities.
6. Promotion of an active Ladies' Auxiliary.

Dr. Whittaker: I was asked to remind you to speak about insurance certificates.

Chairman Warnshuis: If you have read the report of our State Committee on Civic and Industrial Relations, a resolution was adopted at the House of Delegates at the Jackson meeting and reaffirmed at the last meeting at St. Joseph and Benton Harbor, that doctors should ask and demand a fee of a minimum of $2 up to whatever price should be charged according to the nature of the certificate they are filling out. There has been considerable controversy between the insurance companies and the doctors who have been asking these fees. Some of the doctors have been filling out the blanks and not requesting any fee. Other doctors have filled out the blanks and when the insurance company declined to pay the fee, they have declined to give the blank or the certification, and controversy has arisen between the profession, the insurance company, and the individual patient.

This is a fixed and determined policy of the House of Delegates, and it can only be carried through successfully when the entire membership will live up to that resolution.

It has come to a crisis at the present time. On last Monday evening the Civic and Industrial Relationship Committee met in Detroit and reaffirmed the resolution, and set forth certain procedures that they are going to take up with the insurance companies, so that you will receive a return for this clerical work which is sometimes so boresome and tiresome for you to discharge. The in-

surance companies are on their last legs. The Travelers' Insurance Company say they are willing to pay it, but they don't want to start it and acknowledge it because then the other insurance companies will do it.

Dr. Robb has seen the directing manager or official of the Standard Accident Insurance Company and has exercised some excellent influence upon that organization. Several of the others have intimated that they are willing to accede to this policy and to this demand of the profession, provided, it is a universal practice on the part of doctors. Of course, as long as they can get these certifications without paying the fee for having the blank filled out, they are going to do it.

The Committee on Civic and Industrial Relationship have arranged or are arranging in final conference with the insurance representatives of the state to cause their acceptance of this plan and this policy of the State Society. You will aid that Committee if, when these certificates come to you, you will ask and demand that your fee be paid before giving them. When you simply fill them out without a fee then your neighbor, who is demanding a fee, is put in a bad light and the insurance company says, "We will save this money." Then we fail to get this thing across.

You will get the detailed report of that in the next Journal, and you will also have an individual communication from the Council upon the subject, which will go to each member.

Dr. Carrow: Do I understand that the Council has fixed a minimum fee of $2?

Chairman Warnshuis: Yes. If you refer to the minutes of the House of Delegates of the State Society at the last meeting held at St. Joseph, published in the November issue of the Journal, under the report of the Committee on Civic and Industrial Relationship, you will find a full statement of that. The minimum fee is $2.

Dr. Carrow: A doctor just asked me if a charge of $2 when you officiate as coroner would be a proper charge for making out any death certificate.

Chairman Warnhuis: Not only $2, but sometimes $5. You get a letter something like this: "So-and-So has applied to this company for insurance. He states that you are his physician or that you operated on him on such-and-such a date. Will you give us the nature of the operation and what were your operative findings?"

I simply reply to the letter that that is confidential information between me and my patient, and if they will give me a release from the patient to impart the information, well and good. Secondly, if they will send me my fee of $5 or $10, or whatever it is, I will be glad to impart the information upon which they are going to base their final conclusion on whether they are going to accept this individual as a policy risk, that I do not propose to serve in an expert capacity for an insurance corporation without remuneration. I get my $5 or $10 for those reports. You can do the same thing if you will use that policy.

They come back and say, "This is for the benefit of that individual, and if you don't give us this report he won't get any insurance."

I tell them then that I can send him to plenty of insurance companies that will give him insurance.

Dr. T. S. Langford (Washtenaw): Reverting to the question of display advertising, that matter was brought to our county society and they were presented copies of the proposed display advertising. It came almost directly from the local paper. We wanted our friendly relation with the local paper to continue, and it is always a matter of issue with the editor as to how much we should return in the way of cash to the paper for our publicity. If we take unfavorable action it makes a local issue between the society and the paper. With that in mind, I move that it is the sense of this meeting that when those matters come up they be referred to our Executive Committee of the Council.

Chairman Warnshuis: Dr. Langford, as I stated earlier in the afternoon, today was the first time I was aware that the Michigan county societies were being solicited. I knew that this thing was being done in some of the other states, but I didn't know that they had invaded Michigan. The inspiration comes from these advertising houses or bureaus or business agencies, and they try to sell their copy, naturally, for which they get a commission. They have been the ones who have been going to the advertising managers of local papers and saying, "Here is an opportunity for you to get some advertising income from the doctors and the dentists of your community." In that way they try

to coerce the profession to take out this advertising space.

Just learning of this today, as I announced before, and referring this to the Executive Committee, you will receive, just as soon as the Executive Committee can act, information as to the position or the attitude that the county society had best take in regard to this matter. Then you will have something official to give to your newspaper and not allow them to become antagonistic to you.

Dr. Langford: Right now the matter is rather acute between the representatives of the press and our society. The matter at present is on the table. If I could tell them that this matter has been referred, it might help the situation.

Chairman Warnshuis: It has been so referred and you can tell them that.

I should like to present to you one of our oldest Secretaries, who has been in active practice for fifty-three years and who is still in active practice and who is an active and competent Secretary, who always responds promptly to communications sent to him. Dr. Fenton, of Hillsdale. (Applause.)

We have also one other old war horse who has been in practice just as long, maybe longer, and that is Dr. Ward, of Owosso. He has been rejuvenated, and we are glad to see him here today. (Applause.)

Dr. Robb: For information only, I should like to ask if anyone knows some of the details of the bills being presented by the nurses. Do you think it is a good thing to discuss this at this time? The facts are that I have in my office several letters asking for endorsement from different sections of the nursing group. I am not in position to answer. If anyone will give me the information, it will be entirely confidential. I want to give these things as honest consideration as I can.

Chairman Warnshuis: The Council in session yesterday discussed and considered the nurses' bill and took it up with the Legislative Committee and received their report. Dr. Corbus, this morning, as Chairman of the Council, in his address, talked upon the subject. The Policy that the Legislative Committee and the Council decided upon is that as county societies we take no part in endorsing or opposing this bill, that we will be in better position in the legislature in the solution of our other problems if we do not take any attitude on one side or the other; however, the opposition to that bill is going to be reported through the Michigan Hospital Association, who are going to be the leaders, and while individually you may record your viewpoint or opinion upon the thing, the recommendation of the Council is that the county societies take no official action thereupon, either one way or the other; remain neutral and let the Michigan Hospital Association lead that fight.

Dr. Ferdinand Cox (Jackson): I was just wondering if the editorial which you had in the last Journal relative to the conditions existing in Iowa and some western states, to which reference was made this afternoon with respect to the societies taking up the charity work, bore any relation or any tendency toward contract practice or state medicine.

Chairman Warnshuis: No, nor does it come in conflict with the decision just rendered by the California Supreme Court, which enjoined lay groups or lay organizations from practicing medicine. Briefly, the Iowa plan, which is one on which we are going to give you more information, is that the county society deals with the supervisor for the care of the indigent poor of the county. In addition to that they have a staff which is rotating from their membership that at certain times in certain places conduct a diagnostic as well as a treatment clinic, for which the individual who may not be able to pay the doctor's full fee, yet is able to pay 75 cents, $1, $1.50 for that visit, pays. They are providing medical care, surgical care and medical advice.

Some of these county societies from the income of such practice have treasury balances ranging from $7,000 to $39,000. None of their members pay any dues, because it is paid out of the income to the county society, to the state society, to the American Medical Association, and periodically, as these balances mount or rise in monetary value, dividends are declared, and each member gets back a dividend from that work. He is given the work, and he is getting returns now, where otherwise he would be getting nothing. We are going to give that to you in detail. That will come either through the Journal or through a private communication. As I stated to you, a commission has been appointed and authorized by the Council to study these various forms

of clinical service to people who are not able to assume the burden of medical care in whole or in part. Discussion of the four or five plans that Wayne County has had presented to it, the plan in California, the Iowa plan, and several others are going to be studied. Information is going to be formulated, tabulated, and presented to the House of Delegates this fall for concrete action on the part of each county society.

I am quite sure that the Council and all of us who are engaged in this work have been pleased and inspired by the excellent attendance that we have had here today. It is, after all, the inspiration that you men give to our committees, to the Council, to your officers, that makes possible the achievements of our State Society. It is my privilege and authority from the Council to extend to you their thanks for the time and trouble to which you have gone.

The minutes of this conference will be published in the March issue of the Journal.

A motion was regularly made, seconded and carried that the appreciation of the Secretaries be extended to the Society for the excellent meeting. The meeting adjourned at four-thirty o'clock.

MINUTES OF THE FEBRUARY MEETING OF THE EXECUTIVE COMMITTEE

1. The Executive Committee of the Council held its monthly meeting in Detroit on February 14, 1931.

2. With Chairman Corbus presiding the following members were present: Henry Cook, C. E. Boys, George L. LeFevre, James D. Bruce, C. A. Neafie, Carl F. Moll, President-Elect, and F. C. Warnshuis, Secretary.

3. In compliance with previous arrangements the Executive Committee met in conference with the State Legislative Committee and members of the Legislative Committee of Wayne County for the purpose of discussing pending legislative problems. Chairman Corbus made the opening statement and then extended discussion was entered into regarding the profession's position upon certain bills that were considered.

4. Dr. Sundwall, Chairman of the Legislative Committee, presented the following report, which upon motion of Bruce-Le Fevre was adopted:

To the Council of the Michigan State Medical Society:

Your Committee on Public Relation and Legislation begs to report the following relative to the Senate Bill No. 7—to provide for the examination, regulation, licensing and registration of professional nurses and trained attendants:

The nurses are to be commended for their efforts to raise the standards of both preprofessional and professional training for nurses and for trained attendants as specified in this bill.

The most serious objection to the bill is found in Section 2 in the following statement: "The Michigan Board of Registration of Professional Nurses and Trained Attendants is hereby empowered to prescribe the curriculum which must be covered in each school of nursing." Again in Section 2, in defining the duties of the two visiting representatives, the following is, in the opinion of the Committee, objectionable: "Their duties will consist of visiting and inspecting schools of nursing to the end that the rules and regulations if adopted by the board may be promoted and upheld in the state."

Nursing education, like all professional education, should not be controlled by a selected few who are in the practice of the profession. Education and training for all professions are continually changing and forever flowing on. In the very largest measure these should be left free to experiment and to develop within the walls of the nurses' training schools. There is always grave danger that when the machineries involved in the education and training for a profession are controlled by those who are in the active practice of a profession, these machineries become fixed and rigid and, therefore, progress is difficult.

Moreover, education and training for nurses involve several interests other than those concerned with standards and a curriculum which may be specified by the nursing profession. These interests include hospital administration, medicine and education in general.

Therefore, your Committee is of the opinion that nursing education and the machineries involved is a matter that should be worked out and controlled jointly by the nursing profession, medical profession and the profession of hospital administration.

In view of this objection to this proposed turning over the functions and powers of nurses' education to a board of registration of professional nurses, your Committee recommends that the Michigan State Medical Society register its opposition to the Bill as it is now written.

Respectfully submitted
Earl Carr, M.D.
John Jackson, M.D.
James Robb, M.D.
Alfred Whittaker, M.D.
John Sundwall, M.D., Chairman
Legislative Committee.

5. Upon motion of Bruce-Cook, the Secretary was directed to address a letter to the officers of all the county societies explaining the bill that sets forth the proposed amendments to our present Medical Practice Act.

6. Upon motion of Bruce-LeFevre, the general report of the Legislative Committee

was accepted and another meeting of the Executive Committee and the Legislative Committee was arranged for, to be held within two weeks.

7. Upon motion of LeFevre-Cook, the Chairman of the Council was directed to represent the State Society at a meeting of the Federation of Examining Boards, Hospitals and Medical Colleges to be held in Chicago on February 17 to 20.

8. The Chairman of the Council and Secretary were directed to confer with the President relative to a speaker for our next Annual Meeting.

9. The Secretary presented a report upon the sale of our Medical Histories. Upon motion of Bruce-Boys, the Secretary was directed to pay the Bruce Publishing Company an additional $1,000 on account.

Upon motion of Cook-Boys, the Secretary was directed to direct a letter to the Councilors urging them to make contact with county secretaries for the further sale of the histories.

Upon motion of Bruce-Boys, the Secretary's letter to the county secretaries appointing them as agents for the sale of our History was approved.

10. The Secretary reported upon the investment of the surplus funds of the society. Upon motion of LeFevre-Cook, the Secretary was directed to invest the surplus funds in certificates of deposit and not to purchase any stocks or bonds at the present time.

11. The Secretary presented the following communication from the Committee on Civic and Industrial Relations:

As Chairman of the Civic and Industrial Relations Committee, I would like to make some recommendations for approval by the Council at its next meeting.

As you know, the committee will have a meeting in Detroit at 6:00 P. M. on Monday, February 16, at which the representatives of a number of insurance companies will be present to discuss the resolutions passed by the State Society regarding the payment of the $2.00 fee for making out health and accident claim blanks.

I feel that if our campaign is successful, there are two things which must be done.

1. That a letter should be immediately sent out to the home office of each of the insurance companies, giving them the resolutions passed at the St. Joseph-Benton Harbor meeting, which provided that the home office of each insurance company is notified of the resolution.
2. That the Chairman of the Civic and Industrial Relations Committee be authorized to address a number of the larger county societies to explain to them the purposes of the resolutions and to impress upon the members of such societies that they should adhere strictly to these resolutions.

I am willing to do this, providing my expenses are paid and that I receive any other customary remuneration for my services. You can readily see that it will take time from my professional work, but I will gladly do my share for the good of the State Medical Society.

Will you kindly take this matter up and let me know the results, if possible, before the committee meeting on Monday night?

It would also seem very advisable if you could be present at our meeting.

Very sincerely,
Harrison S. Collisi,
Chairman, Civic and Industrial Relations Committee.

Upon motion of Cook-Boys, the Committee is to be instructed that for the present no schedule of appearance before county societies should be arranged; that at least thirty days be permitted to elapse in order to obtain the action of county societies upon the communication that has been addressed to them.

12. The Secretary was directed to arrange for a conference of the Executive Committee and the Section Officers for the next meeting in March.

13. The Secretary referred to the Executive Committee that portion of his Annual Report which dealt with the Survey of Michigan Doctors, a Clinic Survey Commission and Department of Health Clinics, which the Council by its action empowered the Executive Committee to consider and act.

On motion of Cook-Boys, the Secretary was instructed:

1—To conduct a survey of Michigan doctors.

2—To secure more data and information upon clinics and their administration.

3—To arrange with the State Commissioner of Health for health clinics.

14. Upon motion of Bruce-LeFevre, the communication from Dr. Fairbanks of Luther, Michigan, was referred to Councillor Ricker for investigation and report to the Executive Committee.

15. Upon motion of Boys-Cook, the Secretary was directed to advise county medical societies that in the matter of newspaper advertising each county society should determine its own policy and position.

16. Upon motion of LeFevre-Boys, the Executive Committee went on record as

disapproving the policy of distinguishing between the speakers on the program of our postgraduate conferences and those who are appearing upon the program that is jointly sponsored by the Michigan Children's Foundation and the Society. It was further decided that, in the matter of compensating speakers for their time, Dr. Bruce be authorized to determine the honorarium that is to be paid each speaker.

17. Dr. Bruce reported in detail regarding plans that were being perfected for the 1931 postgraduate clinics and postgraduate courses. He also announced that, at the request of the Anti-Tuberculosis Association of the State, the State Society will in the future conduct the tuberculosis clinics that have formerly been held under the auspices of the Anti-Tuberculosis Association.

18. The Chairman and Secretary were empowered to arrange the date for the next meeting of the Executive Committee and the Legislative Committee.

19. The Executive Committee adjourned at 12:45 A. M.

F. C. Warnshuis.

COUNTY SOCIETIES

BRANCH COUNTY

The annual meeting of the Branch County Medical Society was held at Coldwater, February 6, 1931. Officers were elected as follows: President, Dr. S. Schultz; vice president, Dr. R. L. Wade; secretary-treasurer, Dr. A. G. Holbrook; delegate to state meeting, Dr. S. Schultz; alternate, Dr. R. L. Wade. Dr. S. Schultz was appointed to act on the Medico-Legal Committee. The Legislative Committee is composed of Dr. R. W. McLain, Dr. W. W. Williams, and Dr. W. J. Bien.

Dr. W. A. Griffith, who on account of ill health has had to give up his practice, was elected an honorary member of the Society.

A. G. Holbrook, *Secretary.*

CALHOUN COUNTY

The January meeting of the Calhoun County Medical Society was held January 6, 1931, at the Post Tavern, Battle Creek.

The meeting was called to order by the president, Dr. William Dugan.

A communication from Dr. F. C. Warnshuis, secretary of the state society, relative to contributions to the Pershing Memorial at Washington was read by the secretary. It was moved by Dr. Wilfrid Haughey and seconded, that "this society contribute $17.00 for the Pershing Memorial." Carried.

The secretary read communications from both local newspapers relative to an educational advertising campaign to be approved but not paid for by the county society. It was moved by Dr. Rosenfeld, seconded by Dr. Fraser, that we endorse the educational campaign submitted by the Enquirer-News. Discussion by Dr. Gorsline, Dr. Wilfrid Haughey and Dr. Zelinsky. Dr. Gorsline moved to amend Dr. Rosenfeld's motion to refer the matter to the educational committee for study, and report at a future meeting. The motion as amended was carried.

It was moved by Dr. Wilfrid Haughey that a committee be appointed to investigate the feasibility and expense of placing a tablet in Nichols hospital or some other public place in memory of Dr. McCurdy, who died in service during the war. Carried. The president appointed as this committee Drs. Wilfrid Haughey, R. C. Stone, W. N. Putman.

Dr. C. R. Hills then introduced Dr. Raphael Isaacs, assistant director of the Henry Simpson Memorial Institute of Ann Arbor, who presented a paper on the "Diagnosis and Treatment of Diseases of the Blood Forming Organs." This paper was discussed by Drs. Capron, Bertha Selmon and Raphael Isaacs.

Adjourned.

H. F. Becker, *Secretary.*

LAPEER COUNTY

At the regular meeting held at Imlay City on January 8, 1931, the following officers for the year were elected: President, Dr. C. M. Braidwood, Imlay City; vice president, Dr. D. W. Crankshaw, Imlay City; secretary and treasurer, Dr. H. M. Best, Lapeer; delegate to State convention, Dr. C. M. Braidwood; alternate delegate, Dr. H. B. Zemmer.

There were present seventeen members and six visitors. Six new members were elected to membership, as follows: Dr. Robert L. Dixon, Lapeer, superintendent of Michigan Home and Training School; Dr. Harry A. Schneider, Lapeer, assistant superintendent of Michigan Home and Training School; Dr. Rudolph L. Ripper, Lapeer, staff physician Michigan Home and Training School; Dr. D. Vauld, Lapeer, staff physician Michigan Home and Training School; Dr. Kenneth L. Olmstead, Lapeer; Dr. John E. Campbell, Brown City.

Dr. T. F. Heavenrich of Port Huron, councilor for the Seventh District, read an able paper on "Head Injuries," giving the conservative medical treatment and reasons for the advantages of such treatment. Discussion followed by Drs. Webster, Zemmer, Dixon, Crankshaw, Tweedy and Gift.

Dr. J. E. Wellman, president of the St. Clair County Medical Society, was a visitor and gave a brief talk.

The matter of future meetings was discussed and it was decided to hold monthly meetings on the second Thursday of the month, having a dinner at 6:30, with program following, the dinner to begin promptly and the program to be "snappy."

A vote of thanks to Dr. Heavenrich for his paper was unanimous.

The meeting adjourned to convene again February 12.

H. M. Best, *Secretary.*

GRATIOT-ISABELLA-CLARE COUNTY

The January meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Wright House, Alma, Thursday, January 29, 1931. Dinner was served to twelve at 7 P. M.

President W. L. Harrigan called the meeting to order. Minutes of the previous meeting were read and approved. A communication was read from the State Society relative to the doctors' furnishing

a room in the Pershing Memorial in Paris. A motion was made and carried that this Society contribute $5.00 towards this fund.

President Harrigan announced the following committee appointments for Medico-legal Committee—B. C. Hall and A. D. Hobbs; for a Legislative Committee—C. D. Pullen and C. F. DuBois.

The secretary made a report of the County Secretaries meeting held in Ann Arbor, January 22.

The question of administering toxin-antitoxin to school children was discussed. Motion was made and carried that where the children were gathered in groups and a nurse was furnished with toxin-antitoxin and syringes and needles, the doctors would administer the toxin-antitoxin for 50 cents a pupil.

President Harrigan then called on Dr. L. J. Burch, who talked on "How to Conduct a Confinement in the Home"; Dr. A. D. Hobbs, who talked on "The Toxemias of Pregnancy"; and Dr. T. J. Carney, whose subject was "Postpartum Surgery." These talks were discussed by every one present in an informal way. In connection with prenatal care much adverse criticism was made of a statement by Dr. Ward F. Seeley which was quoted in the Free Press, "If the pregnant woman is accustomed to smoking it will be all right for her to smoke not more than four cigarettes a day." The picture of a mother nursing her baby while smoking a cigarette is too repugnant to think about. The feeling expressed was that the profession was humiliated by such a statement from a doctor being published in a newspaper.

E. M. Highfield, M.D. *Secretary.*

HOUGHTON COUNTY

Houghton County Medical Society held its regular annual meeting, January 6, 1931, at Douglass House, Houghton, Michigan.

Following a banquet at 7:30 P. M., at which twenty-five members were present, the business meeting was called to order by the president at 8:30 P. M.

Minutes of the last meeting were read and approved. Financial report of the secretary was read and submitted to committee for approval. Report being approved it was moved and accepted.

Judge Herman Weider of the Houghton County Probate Court gave an interesting and illuminating talk regarding the "Problems of the Probate Court, in its Relation to the Doctors and their County or Indigent Patients." The Judge's talk and the discussion following, brought attention to one outstanding fact about these county cases, that a great deal of money can be saved each county in Michigan, if the county supervisors and the public relief commissions in the different counties will work with the local doctors through their respective county medical societies, and arrange to have the local doctors in the different counties take care of most of the medical and surgical cases which they are shipping to state institutions and to the University Hospital, Ann Arbor. It was admitted that many cases will have to have special care, and these cases which should have special care should first be passed on by a committee representing the county medical society, and the county physician.

Our society recommends that other county medical societies have their Judge of Probate Court address them on the same subject.

Election of officers for 1931 resulted as follows: President, Dr. W. A. Manthei, Lake Linden; vice-president, Dr. C. B. Stewart, Hancock; secretary-treasurer, Dr. T. P. Wickliffe, Lake Linden; censor for three years term, Dr. I. Stern, Houghton: delegate to State meeting, Dr. Alfred Labine, Houghton; alternate delegate, Dr. K. C. Becker, Mohak.

T. P. Wickliffe, *Secretary.*

HILLSDALE COUNTY

The Hillsdale County Medical Society met at the Orange Lantern Tea Room, Hillsdale, January 20, 1931, at 6 P. M., the president, Dr. Poppen, in the chair.

After an excellent dinner, the meeting came to order and the minutes of the last meeting were read and approved.

Dr. S. B. Frankhouser then gave a very interesting report of a case of perinephritic abscess which was ably discussed by Dr. W. H. Sawyer and a general discusion followed.

Dr. B. F. Green next read a most valuable paper on "Treatment of Appendicitis."

Dr. Green stressed the importance of early diagnosis and immediate operation and pointed out the danger of cathartics.

Discussion was opened by Dr. C. L. Hodge, after which there was a very full general discussion.

The society then proceeded to the election of officers for 1931, resulting as follows: President, Dr. J. L. Yeagley; vice president, Dr. C. L. Hodge; secretary-treasurer, Dr. D. W. Fenton; delegate to State Society, D. W. Fenton; alternate, Dr. B. F. Green.

Under the head of unfinished business, the report of the committee on "the care of the indigent" was called for, but the chairman, Dr. Sawyer, having been obliged to leave, this was postponed.

The secretary-treasurer next gave a report of the finances of the society, which was adopted, and he was instructed to draw a check in his own favor of $6.65 for incidentals for last year.

The illness of Dr. Yeagley and Dr. Hamilton was spoken of and the secretary was directed to send flowers to each with the sympathy of the society.

Under "Suggestions for the good of the society" it was decided to continue our custom of holding our meetings quarterly; and that we invite our colleagues of adjoining counties to join us at our meetings.

Adjourned.

D. W. Fenton, Secretary-Treasurer.

MIDLAND COUNTY

On Wednesday afternoon, February 4, a meeting of members of the Midland County Medical Society was held at Dr. Towsley's office. Seven of the nine members were present. They met to hear a report from their secretary on the county secretaries' conference held at Ann Arbor January 22.

Report on Dr. Tibbals' talk was kindly received, but the report on a fractured femur was doubted by some. The remainder of the report, including activity in public affairs, was approved.

E. J. Dougher, *Secretary.*

MECOSTA COUNTY

At the regular meeting of the Mecosta County Medical Society held at Big Rapids Tuesday evening, February 10, the secretary was instructed to send $5.00 as a contribution to the Pershing Memorial Room in Paris, France.

The serious illness of Dr. C. W. Bunce of Coral, Michigan, was announced through a letter from his son, Dr. E. P. Bunce, of Trufant. Through Dr. Sam Drummond of Casnovia it was learned that Dr. Bunce was dangerously ill at his old homestead about six miles from Casnovia. Flowers and a card of sympathy were sent to him by the Society.

An effort is being made to consolidate the counties of Mecosta, Newaygo, Lake, and Osceola into a Health Unit. The consensus of opinion among the medical men present was that the time was not opportune for any such consolidation. Moreover, it was

suggested that if any such union was contemplated, it should be Mecosta and Osceola Counties, as all points of the two counties in question are very accessible.

Routine business was about all that was transacted, and the meeting adjourned until March 10, when we will be entertained by the dental profession of Big Rapids.

John L. Burkhart, M.D., *Secretary.*

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, President, Jackson, Mich.
MRS. W. L. FINTON, Secretary, Jackson, Mich.

AUXILIARY

Dear Members:

Now that the holidays are over and with them the distractions in every household, shall we not turn our thoughts to a successful and progressive new year for the Auxiliary.

This year has been an unusual one in many ways, giving every one opportunities to assist with the unemployment situation and to study the child welfare problems in our state, as well as in the others. Now that our state legislature is in session, and with a new governor in office, we will be interested in any new measures affecting health.

Have you changed your programs lately? What do you know about the Michigan Department of Health, or your own local health board, how it operates and if you can assist either one?

In a recent letter from Dr. C. C. Slemons, who is at the head of the Department of Health, he said, "It is hoped that through your state organization, you may be able to have local societies coöperate with the County Health unit after it is established and especially to help create a popular demand for the unit plan in counties not already organized."

You will see that this interest is really desired from us and that we will not be outside of our sphere if we do inform ourselves about the county units. If we are to influence the public opinion regarding their establishment, we may secure the desired information by writing to the Michigan Department of Health at Lansing.

Are all eligible doctors' wives in your community members of your society? Do you ever invite neighboring county doctors' wives to meet with you? Much to our sorrow, comparatively few counties in Michigan are organized. At present Bay, Berrien, Calhoun, Ingham, Jackson, Kalamazoo, Oakland, Ottawa, Saginaw, and Wayne have societies, so each of us has neighbors to whom we can extend fellowship. Will you not coöperate with the state, by making yourself or your society responsible for a new member or a new auxiliary during the coming year?

At the last convention your organization chairman was allowed a stated amount for traveling expenses.

Mrs. Kiefer having resigned as organizing chairman, you may call upon our new chairman, Mrs. F. F. Andrews, 2325 Crane Avenue, Kalamazoo, for the actual work of organization if necessary; but before that you could create a desire between your neighbors to be united with us in the work and friendship which we members know is most desirable.

Most cordially yours,
Mrs. L. J. Harris, *President.*
Ella H. Finton, *Secretary.*

DUES

To refresh your memory regarding dues. County Auxiliaries shall establish their own annual dues. Each County Auxiliary shall pay one dollar per capita for membership to the State Auxiliary, of which twenty-five cents shall be remitted to the national organization. Dues shall be payable on or before April 1 of each year, official year of the Auxiliary beginning January 1.

BAY COUNTY

The Bay County Auxiliary met at the home of Mrs. V. H. Drummond, January 15, for its regular meeting. After a delicious dinner and our regular business attended to, we spent a very enjoyable evening visiting and sewing for the Civic League.

OAKLAND COUNTY

The Woman's Auxiliary of the Oakland County Medical Society makes its bow and salutes the State Society. We desire to introduce our organization, of which Mrs. F. A. Mercer is president, Mrs. H. M. Heitsch, secretary, and Mrs. E. V. Howlett, treasurer. There are some sixty active members at present, to whom we hope to add.

The Auxiliary has enjoyed, besides the regular business meetings, one very successful evening at bridge with the doctors as our guests.

Our last regular meeting was held Friday, January 23, at the new building of the Pontiac General Hospital, where we enjoyed luncheon in the Nurses' Dining Room. About forty-eight were present to hear the invitation from the Wayne County Auxiliary to attend their next meeting, February 10. After the business session, Dr. John Monroe, of the Oakland County Health Department, gave a most interesting résumé of their work in the county, together with their plans for further development. His talk was followed by a round-table discussion.

At the close of the meeting many availed themselves of the opportunity to view the very complete

new hospital unit, of which our community is so justly proud.

We are delighted to welcome Oakland County Auxiliary to the State organization and congratulate them upon their first successful program.

Yours respectfully,
(Mrs.) Louise T. Urmston,
Publicity Chairman.

THE DOCTOR'S LIBRARY

THE HAIR, ITS CARE, DISEASES AND TREATMENT. W. J. O'Donovan, M.D., Physician to the Skin Department and Lecturer on Dermatology at the London Hospital; Lecturer at the London School of Dermatology, St. John's Hospital. London. Price $3.50. P. Blakiston's Son and Company, Philadelphia, Pa.

In the preface to this book the author mentions the neglect which the subject has suffered at the hands of the medical profession, with the consequent rapid increase of unqualified persons who claim to give expert advice on it. His aim has been to present the current teaching of dermatologists with regard to the hair. Beginning with the arrangement and pigmentation of the hair, he passes on to discuss ectodermal defects, the development and replacement of fetal hair, and the abnormalities of development which may arise at various stages. He discusses alopecia due to scarring and seborrhea of the scalp with its complications and treatment; syphilitic alopecia is discussed at length in a separate chapter, with a reference to possible mistakes in diagnosis. The composition of hair dyes in general use is given, and the treatment of parasites of the scalp is presented.

A MANUAL OF THE COMMON CONTAGIOUS DISEASES. P. M. Stimson, A.B., M.D., Associate in Pediatrics, Cornell University Medical College. Illustrated with 40 engravings and 2 plates. Lea & Febiger, Philadelphia, Pa. 1931.

In this attractive little work, which contains the essentials of the subject, the author has discussed the principles of contagion and also serum reactions as a general introduction to the subject of common contagious diseases. The work is an outgrowth of lecture notes prepared for use in classes in the Cornell University Medical School. It goes without saying that a handbook intended for students during their clinical years will prove equally valuable to the clinician who has been out of college for a number of years. The present work supplies up-to-date information of such acute contagious diseases as diphtheria, whooping cough, rubella, chickenpox, smallpox, mumps, meningitis and poliomyelitis. There is a chapter on the general management of contagious diseases which should be read and inwardly digested by those entrusted with the nursing care of these cases. There is a table consisting of a summary of the common contagious diseases which will be found valuable for ready reference. The book is very attractively gotten up in flexible cover.

CLINICAL ALLERGY, PARTICULARLY ASTHMA AND HAY FEVER, MECHANISM AND TREATMENT. Francis M. Rackemann, M.D., Physician to the Massachusetts General Hospital, Instructor in Medicine, Harvard Medical School, Boston, Mass. The Macmillan Company, New York. 1931. Price, $10.50.

There has been a wide and active interest in the theory that hay fever and asthma are manifestations of a hypersensitiveness to some foreign substance. As a result a mass of literature has accumulated during the past decade. In this book this literature has been digested and correlated with the author's observations. The present conception of the mechanism of asthma, hay fever and allied disorders is defined and the methods of diagnosis and treatment with the results obtained are discussed. In Part I of the book the phenomenon of hypersensitiveness is discussed in detail in nine chapters. The fifteen chapters of Part II are devoted to the clinical manifestations of allergy. This is a very complete and authoritative survey of the entire subject and should be well received by both the specialist in allergy and the general practitioner.

DOCTORS PREFER GRADUATE NURSES

The nurse the doctor wants for his patients must have good breeding and an attractive personality and know how to handle people, besides being competent in her strictly professional duties. The doctor's idea of what a nurse should be was revealed by a questionnaire answered by more than 4,000 physicians in all parts of the country for the Committee on the Grading of Nursing Schools. Skill in making patients comfortable and in general care tied for first place in the list of virtues set down for nurses by the medical vote.

Next in esteem were skill in observing and reporting symptoms, care in following medical orders, good breeding and attractive personality, and skill in handling people. Specialists dealing with nervous cases, doctors handling children's diseases, and obstetricians particularly emphasized the importance of good breeding and personality. The nerve specialists were by far the most interested in having for their patients nurses who can handle people. How well nurses succeed in living up to the doctor's ideal was revealed by the fact that nine out of ten physicians reported that they were getting the nurses they want and would be glad to recommend the nurse employed on their last case to their next patient. Other qualifications of a good nurse voted on in the questionnaire but not ranking with the first six in the poll of doctors included: familiarity with hospital routine, skill in asepsis (sterlizing instruments, wounds, etc.), experience and background, familiarity with the doctor's personal methods, ability to work under a heavy strain and familiarity with a particular disease. The nurse as a responsible adult to take charge of the family and mother's helper and houseworker received the fewest votes, indicating that the demand for the practical nurse by physicians is dropping. Indeed, 84 per cent of the physicians indicated that they preferred the graduate, registered, trained nurse at all times for their own cases.—Science Service.

TREATMENT OF FRACTURES OF HEAD AND NECK OF RADIUS

J. Albert Key, St. Louis (*Journal A. M. A.*, Jan. 10, 1931), insists that certain fractures of the upper end of the radius should be treated conservatively, others should be treated by immediate operation with either removal or replacement of the head, and others should be treated expectantly and the head removed later if necessary. The fractures that should be treated by each of these methods are enumerated. In children, the displaced head of the radius can be replaced by open operation and a practically normal elbow and forearm may be expected. After early removal of the head of the radius, a satisfactory but not a normal elbow and forearm may be expected. Traumatic arthritis is the result of function in a disorganized joint, and late removal of the head of the radius after the arthritis has developed will not as a rule cure the arthritis.

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CONTENTS

The Neurological Side of Hyperthyroidism. Carl D. Camp, M.D. 255
Clinical Use of Viosterol. H. G. Poncher, M.D. 258
Kidney Function Tests. F. H. Lashmet, M.D. 260
Gas-Bacillus Infection. J. C. Kenning, M.D. 262
Duodenitis. A. R. Hufford, M.D. 267
Progressive Lipodystropy. Fred P. Currier, M.D., and David B. Davis, M.D. 269
The Effect of Yeast Extract on Intestinal Secretion. Ephraim B. Boldyreff, M.S. 271
Simple Non-Specific Ulcer of the Colon. V. W. Jensen, M.S., M.D. 274
The Mental Hygiene Movement. O. R. Yoder, A.B., M.D. 275
The Training and Education of the Mentally Deficient. Harry A. Schneider, M.D. 277
Intracranial Birth Injuries Incidence, Sequelæ and Treatment. C. F. McClintic, M.D. 285
Kidney Infections in Pregnancy. Robert L. Cowen, M.D. 291
Famous Men in Medical History: An Appreciation of Sir William Osler. Don M. Le Duc, M.D. (Continued from March) 293
Tuberculosis Abstracts 299
Editorials:
Privileged Communications 301
Occupational Diseases 302
Hepato-Lienography 302
An Important Warning 303
Cancer 303
Post-Graduate Medicine 304
First Aid vs. Practice of Medicine 304
Deaths 306
Communications 306
General News and Announcements 307
Society Activity 309
County Societies 314
Woman's Auxiliary 317
The Doctor's Library 318

THE NEUROLOGICAL SIDE OF HYPERTHYROIDISM*

CARL D. CAMP, M.D.†
ANN ARBOR, MICHIGAN

It is only recently that we have learned to discriminate between various forms of hyperthyroidism, especially between the so-called toxic adenoma causing a thyrotoxicosis and the form in which the toxic effect is associated with over-activity of the gland but not necessarily with hyperplasia. It is quite certain that Graves (1835) and Basedow (1843) did not realize any difference in these two conditions and what is ordinarily called Graves' or Basedow's diseases might be either one. In both conditions nervous and mental symptoms and signs are prominent in the clinical picture, and in so far as they are directly due to the thyrotoxin they are the same in both. The differential diagnosis must depend on other signs. Many different theories are held regarding the etiology of the thyroid adenomata—heredity tendencies, diet, deficient iodin, infections, trauma and others. The histopathological study of the gland does not settle this question of etiology even though it

*Presented at the 110th Annual Meeting of the Michigan State Medical Society, Benton Harbor, Michigan, Sept. 15, 16, 17, 1930.

†Dr. Carl D. Camp is Professor of Neurology at the University of Michigan. He graduated in Medicine at the University of Pennsylvania in 1902 and was appointed Instructor of Neuropathology at that institution in 1904. In 1907 he came from there to the University of Michigan to take charge of the clinic in Neurology.

may differentiate the type of pathologic change.

In the type of thyrotoxicosis in which no adenoma is demonstrable the most important, if not the sole cause is emotion. Emotional disturbance may also be a complication of the toxic adenoma but is probably not the etiological factor in such cases. Twenty years ago when exophthalmic goiter was still regarded as primarily a nervous disease, Oppenheim wrote that the chief cause was worry or fear, also occasionally a single psychic shock. Other causes that he listed were: trauma, bodily overstrain, wasting diseases and difficult childbirths, all of which obviously might be connected with emotion.

The mental state of a hyperthyroid patient is practically never normal. There is an abnormal irritability, restlessness and excitement that can be noted immediately in the facial expression and actions. Reynolds has spoken of a "chorea of thought" in these cases. They retain their ambitions but their efforts exhaust them before they accomplish anything. The mental condition varies in degree in different patients and in the same patient from time to time. The severity of the mental symptoms does not correspond to that of the other symptoms. In fact, I have seen a patient who had practically no other symptoms except those above described and from which he recovered completely following an operative removal of the thyroid.

Sometimes these mental symptoms become more marked and we have a characteristic toxic type of psychosis with mental confusion, memory disturbance and confabulation, hallucinations and so on. There is nothing about these cases that would distinguish them from other toxic psychoses except the history and mode of onset. More rarely there may occur other types of psychoses such as melancholia, paranoid types and the like, but in such cases the psychoses are to be regarded as complications rather than symptoms of the thyroid disturbance. It is important to separate these complicating psychoses from those of the toxic type because they are frequently unimproved or even made worse by thyroid operations whereas the thyrotoxic type may be cured by the same treatment.

Of course, none of the above symptoms are strictly speaking emotional. They are changes in character, feeling, and modes of thought and action. They are results of hyperthyroidism and in no sense causal.

For emotional causes we must look into the history of the case, but we cannot be content merely with the patient's statement that he is not worrying or fearful.

It is my personal opinion that we should not say that hyperthyroidism is a result of emotion but we must say it is a phenomenon of emotion. It follows, therefore, that the patient must in fact have the emotional conflict at the time he complains. It is not something in the past but in the present, in fact, although the patient may not be aware of it or of the connection between it and his symptoms.

This repression of the conflict and consequent unawareness of it is the main reason why the emotional factor in the etiology of cases is so frequently overlooked.

The greatest difficulty that we have in explaining the relation between emotion and the various glandular and other disturbances that are a part of emotion is due to the use of the word emotion as synonymous with feeling. Although such use is proper in a general sense, the dictionary also points out that the two words have different derivations and an accurate meaning of emotion is that which implies agitation or conflict, "a tumultuous disturbance." The best technical definition is that given by Janet: "When an organism perceives its inability to so adapt itself, there results a series of phenomena that taken collectively we speak of as an emotion." You will note that the glandular and other disturbances are not caused by emotion; they are, in fact, a part of it. The feeling accompanying it, usually of a disagreeable type, is also a part of the emotion. If we use the word in the above technical sense, which is the physiological, or, if you prefer, the neurological definition, we obtain a clearly defined relation between conflicting ideas, the so-called mental conflict, and various disturbances of function.

The physiologic side of this definition is based on the work of three distinguished physiologists: First, Pavlov, who demonstrated experimentally that secretions reflexly induced would be modified both in character and amount by training, the so-called "conditioned reflex"; second, Sherrington, who proved that the nervous system has an integrative action so that stimuli simultaneously applied that give rise to con-

flicting impulses will result in internal conflicts; and finally, Cannon, who showed that fear and rage in animals affected profoundly the internal secretions.

It is not my purpose at this time to go into the question of the many and important disturbances of function that accompany and, in fact, characterize emotional conflicts, but to confine my attention to the thyroid. However, it may be pointed out that it is because of the presence of these other manifestations that we are able to diagnose from the neurological examination the emotionally caused hyperthyroidism from the other type—the toxic adenoma.

The treatment of the toxic adenoma is logically surgical or some other method of lessening the gland function. The logic of removing a gland that is simply secreting excessively because of an emotional conflict is not so clear. It is true that with the removal of the gland in such cases there is a prompt recovery from the thyrotoxicosis, but such patients continue to complain of other signs of the emotional conflict. Except in desperately ill patients, it would seem to me better to search first for the cause of the trouble and try to remove it. An operation could be done later if it were necessary.

Other neurological manifestations are numerous in hyperthyroid states. One of the most common is a complaint of asthenia and general inefficiency. This is often referred to as a neurasthenoid condition, but there are many differences from a true neurasthenia. A neurasthenic feels at his worst in the morning and better toward evening. The hyperthyroid becomes progressively weaker as the day wears on. This is much like the complaint in myasthenia gravis and there are often other resemblances, inasmuch as a local weakness may occur after use; for instance, diplopia or drooping eyelids after using the eyes or a profound weakness of the fingers after playing the piano a short time, a husky voice and difficulty in articulation after talking—all of these symptoms being relieved by rest. In the past two years I have seen two patients with hyperthyroidism, but with such marked myasthenic symptoms and signs that a diagnosis of myasthenia gravis was seriously considered. Attacks of periodic paralysis in hyperthyroidism have been described by Saenger and others but these and also the occurrence of a localized progressive muscular atrophy must be regarded as complications rather than symptoms.

Attacks of abnormal sleepiness have been described as occurring in Graves' disease, but in my experience there has been more tendency to insomnia although this is not usually a serious symptom.

The characteristic tremor is the fine type, eight or ten per second, and does not usually interfere with the use of the hands. I have seen several patients who had the coarser intentional type of tremor and whose cases had been diagnosed as a thyrotoxemia, but further study always showed some other disease of the nervous system to account for the tremor.

The most common secretory anomaly is hyperidrosis, which is often most noticeable in the extremities, the hands and feet, but may also be general. Other secretory anomalies that have been described as thyrotoxic, such as polyuria, diarrhea, glycosuria, dry mouth and so on, are probably emotional. In the cases that I have studied they show all the characteristic signs of emotional reactions and they have occurred only in those cases where an emotion has also been the cause of the thyroid hypersecretion. I am inclined to believe that Loewi's sign, the dilation of the pupil on instilling adrenalin solution, is not a sign of excessive secretion of the thyroid, but occurs only in those cases which are emotionally caused and have, therefore, also an excessive amount of adrenal secretion in the blood. Although I have made this test on a large series of cases and found it present in some and not in others, I have not had the chance to study these same cases psychoanalytically so as to be sure which were emotional.

The tendon reflexes and the objective sensory tests show nothing abnormal in thyrotoxicosis.

DISCUSSION

Dr. William Vis (Grand Rapids, Mich.): I was surprised to hear the doctor say that in hyperthyroidism the reflexes were not exaggerated, unless I misunderstood him. I had been of the impression that in acute thyroid toxicosis the reflexes might be markedly changed. If I am entirely wrong, I would like to be told so, and if there is such a change in the reflexes and it is not due to thyroid toxicosis, but due to something else, I would be glad to know of that.

Dr. C. D. Camp (closing the discussion): In regard to Dr. Vis' question concerning the reflexes, I meant what I said, in this way: The increase of

the reflexes may be measured either by the amount of movement which results from tapping the tendon or by the duration of the latent period. The amount of movement which follows the tapping of a tendon often is largely the result of the patient's mental state. It may be brought out, for instance, by reenforcement. As you know, in that sense of the word, a thyroid toxic patient may show large reflexes. They are over-excitable, and tapping the tendon gives a large response. On the other hand, that does not indicate any pathology in the central nervous system. If I were to speak of an exaggerated reflex, I would mean one that would show a pathologic change in the nervous system, which does not occur in thyroid toxicosis. It may be a question of what you mean by increased reflex.

CLINICAL USE OF VIOSTEROL

H. G. PONCHER, M.D.†
CHICAGO, ILLINOIS

It will not be my purpose to go into the numerous reports, both clinical and experimental, that have been published concerning the biologic effects of irradiated ergosterol. You are all familiar with the fundamental work of Windaus and Hess, Rosenheim and Webster, and Steenbock and Nelson and the practical application of their work. Following this experimental demonstration of the antirachitic activity of irradiated ergosterol numerous investigators have worked with this substance in both animals and human beings.

There appears to be a general agreement that we have in irradiated ergosterol an agent of exceptional potency in the prevention and the cure of rickets. The earlier controversy arose as to the pathologic effects produced in the employment of this substance as a therapeutic agent in rickets. Various symptoms listed under the head of hypervitaminosis were reported from many sources. Such symptoms as hypercalcemia, anorexia, diarrhea and loss of weight were listed. This state of affairs obviously caused the clinician to focus his attention upon the toxicologic aspect rather than the biologic properties of irradiated ergosterol. The interest was then centered about the safety of this new therapeutic agent. In checking over the earlier animal experimentation it was found that much of the controversy had arisen from the use of enormous doses of irradiated ergosterol standardized by gravimetric methods instead of biologic standards. Without entering into a detailed discussion at this point of the paper, it may be stated that the pathologic results obtained in the earlier experiments were about 10,000 times the prophylactic dose. It was obvious that such enormous overdosage could not be applied to the results one might obtain in the therapeutic application of the preparation.

As a result the question then arose as to what constituted the proper dose in the prophylaxis and treatment of rickets. Various investigators, notably Alfred Hess in this country, have published their observations concerning this phase of the question. I should like to take up for consideration the results of our investgation covering the first year of the work.

Beginning in November, 1928, all the infants born in the maternity ward of the Research and Educational Hospital of the University of Illinois, were selected for this investigation for a period of one year. They were divided into three experimental groups at the age of one month. One-third was given a biologically standardized preparation of irradiated ergosterol (viosterol); one-third, cod liver oil; and one-third, no antirachitic therapy (control). The duration of the observation in this report embraced at least five months of the infant's life and 73 per cent of the entire group were followed for a period of over eight months.

Our results lead us to the following conclusions:

1. In the determination of the prophylactic dose for any given infant, several factors must be given due consideration. If, as in the case of prematures and twins, the factor of insufficient mineral deposition in the bones during intrauterine life is a factor, the prophylactic dose should be increased. Rapidly growing infants whose calcium needs are great must be given special consideration. Infants with repeated infections

†Dr. Poncher is Assistant Professor of Pediatrics, College of Medicine, University of Illinois.

and diarrheas also require more than the prophylactic dose for normal infants. From a consideration of our clinical, roentgenographic and blood chemistry findings we concluded that, for the average normal infant from birth to one year, ten drops of viosterol in oil daily is the minimum dose for prophylaxis, if the administration is started within the first month of life.

2. The determination of the optimum dose for therapeutic purposes was difficult to determine from the small group of active rickets that we had under our observation. The severity of the rickets must be determined, and the dose given accordingly. Mild rickets will frequently heal on fifteen to twenty drops a day, while some severe cases will require as much as thirty to forty drops a day. Given a specific and active form of biologic therapy, results depend to a great extent upon the judgment of the physician.

3. The last statement at once suggests the question as to what is the limit of safety in the therapeutic scale. We fed some of our infants from twenty-one to fifty-two times the prophylactic dose daily over a period of eight months without evidence of hypercalcemia, diarrhea or loss of weight. While such doses are not advised, and are seldom indicated, it does emphasize the limit of therapeutic safety. We have no logical reason to believe that doses in these amounts will result in pathologic changes in the tissues. As was emphasized in the beginning of this discussion, the toxic changes reported by earlier investigators were obtained on enormous overdosages. These considerations belong in the realm of toxicology and are not concerned with doses employed for clinical purposes.

The ultimate success of irradiated ergosterol in the prophylaxis and therapy must await further carefully controlled clinical use. Nevertheless, introduction of this substance into clinical medicine has given us an excellent and potent source of Vitamin D, which, intelligently used, fulfills all our requirements for this form of biologic therapy, and is a noteworthy contribution to the field of medicine.

DISCUSSION

Dr. John P. Parson (Ann Arbor): I can add nothing, but would like to ask two questions.

I think all of us have noticed rickets develop not at all infrequently in patients who have been taking cod liver oil, and occasionally have noted the same when on ultra violet light and cod liver oil. I wonder if this might occur with viosterol. Does overirradiation of viosterol lessen its potency?

My second question: Suppose we give large doses of viosterol and then radiate the baby with ultra violet light, is this good practice or bad practice?

Dr. M. Cooperstock (Ann Arbor): I am sure I cannot add very much, but I might say something of interest in regard to renal rickets. We recently had a case of renal rickets with an acute stage and found that ordinary rachitic therapy does no good in these cases. That is, the ordinary antirachitic therapy will do no good.

Dr. Cooper: I can add nothing, but I would like to express my appreciation for the two very interesting papers. They certainly have enlightened me, especially as to the amount of viosterol given with no deleterious effects, as shown in the last paper. I was of the opinion that it was dangerous to give an overdose.

Dr. Henry G. Poncher (closing): Dr. O'Donnell asked the question whether we were using straight cod liver oil or that to which extra Vitamin D was added, commonly known as fortified cod liver oil. We used the plain biologically standardized cod liver oil. Our object in using cod liver oil was to have three groups of infants for comparative study. Those receiving only Vitamin D (viosterol), those getting Vitamins A and D (cod liver oil) and those receiving no definite form of Vitamins A and D (controls). There is a common conception that when Vitamin D is in combination with Vitamin A as in cod liver oil it is more effective than when Vitamin D is given alone (viosterol). While we reported our results of this observation it was also emphasized that the observation only covered the first year of the infant's life. I do not believe we are in position at this time to make a definite statement regarding the comparison of cod liver oil and Viosterol. A careful comparative study should include at least a three year period, taking into consideration the milk as an incidental source of Vitamin A.

In answer to Dr. O'Donnell's question as to our observations on the effect on teething: We used the eruption of the first two teeth as an index of teething. From our observations we were unable to determine whether antirachitic therapy during the first year of life either hastens or retards the eruption of deciduous teeth. Our observations did not include a sufficient period of time to determine the quality of teeth produced by the different kinds of therapy.

Dr. Parsons raised the question as to the relationship of time of irradiation of ergosterol to its potency. This question has received much consideration from the people who are making viosterol. It has been definitely shown that the potency of the finished product increases up to certain strength depending on the time of irradiation and then decreases. This point emphasizes the value of the biologic method of standardization as opposed to gravimetric method.

The second question raised by Dr. Parsons is a most interesting one. The comparative effect of irradiated viosterol by mouth and irradiation of the skin has yet to be carefully studied. Some workers in China recently reported that skins taken from rats which were fed irradiated viosterol by mouth were not antirachitic when fed to other rats, whereas those skins taken from rats which were irradiated

had definite antirachitic value. The assumption was that when Vitamin D was taken by mouth in the form of viosterol it was not stored in the skin but irradiation did cause storage of Vitamin D in the skin.

Dr. May suggested that either the potency be increased or the price of viosterol be reduced, as it was an economic consideration when large doses were prescribed. In response to such demands from other sources, the Wisconsin Foundation has advocated that after October 1, 1930, the potency be increased from 100 D to 250 D (Steenbock method of standardization). The dose will remain the same.

The viosterol used in our investigation was prepared by Mead Johnson & Company.

This product, until October 1, 1930, was 100 D as assayed by the McCollum-Shipley method but 250 D if assayed by Steenbock method. All products manufactured after October 1, 1930, will be standardized according to the Steenbock method to a strength of 250 D. The only change in the product we were using is in the designation and not in potency.

KIDNEY FUNCTION TESTS*

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In devising a new test of kidney function, or in critically evaluating old tests, one should have in mind certain criteria which these tests must fulfill. Such criteria must be based either upon what little kidney physiology is known, or upon such theoretical considerations as seem plausible.

Richards has shown that all of glomeruli in the kidney are ordinarily not active simultaneously. In fact, even the whole of one glomerulus may not be functioning at the same time. Since we have no way of knowing the number of glomeruli which are active, or if each one is working at its greatest capacity, it is quite obvious that, in order to make a comparison between normal and abnormal kidneys, both should be working at their fullset capacity. The first requirement, therefore, which any test of kidney function must satisfy is that the kidneys are under sufficient strain to insure maximum function.

Urine is a true solution, composed of water and solids, and normal kidneys apparently have no difficulty eliminating either of these substances. In studying diseased kidneys, however, it is necessary to determine if there is a disturbance in the elimination of water, of total solids, of any particular solid, or of any combination of these.

Diseased kidneys have difficulty in eliminating solids. This is evidenced in advanced nephritis by the retention of nitrogenous products, and in mild nephritis by the greater time and greater amount of water necessary to remove a given amount of total solid or waste products.

Even though diseased kidneys do not eliminate solids easily they have little difficulty in eliminating water. In the non-edematous type of nephritis large quantities of urine are excreted in twenty-four hours. Even in the edematous type of nephritis with general anasarca, large quantities of urine are excreted when fluid intake is forced.

Consequently in studying kidney function we are not concerned so much with amount of water excreted except in so far as it affects the total solid elimination. In the matter of elimination of solids, however, it is necessary to present to the kidneys a definite amount of solid waste, for excretion, and determine how efficiently it is eliminated by comparison with the capacity of normal kidneys. Therefore, the second requirement of a test of kidney function is to present to the kidneys a definite amount of waste products to be eliminated in a unit of time and in the presence of a minimum amount of water.

The solids which the kidneys eliminate are numerous. It is conceivable that in different types of nephritis, or at different stages of the same type, the kidneys may have difficulty in eliminating one substance, and not others. In fact, in the non-edematous type of nephritis nitrogenous products are more commonly retained, while in the edematous type certain electrolytes, such as sodium chlorides, etc., are apparently retained. In the ideal type of kidney function test, therefore, one should determine the ability of the kidney to eliminate each one of its excretory products. It is too presumptuous to assume that total kidney function may be de-

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termined by the amount of elimination of a single substance, such as urea, or a dye, except perhaps in advanced cases. To date no evidence has been produced to show that any single substance is eliminated by the kidneys in the same proportion as each one of its excretory products.

The fourth requirement of any test is that it is as simple as possible, and hence more serviceable.

Most of the present day tests of kidney function do not satisfy these requirements. Our present tests depend, as a rule, either on the retention of a single substance or the elimination of a single substance. In the first group fall such tests as the determination of the blood non-protein nitrogen, urea, creatinine and urea tolerance tests. None of these tests presume to put the kidneys at a definite state of functional activity, i.e., maximum function. Also they do not determine the total excretion per unit of time per unit of volume of urine. Hence they do not give satisfactory evidence of total function and in mild cases fail to tell anything of the functional state of the kidney. And lastly, they usually involve such chemical analyses that the average practitioner cannot use them. Furthermore, it is only in advanced nephritis that there is a retention of blood non-protein nitrogen, urea, etc. In fact, Addis has shown that at least fifty per cent of the kidney is destroyed before there is a retention of these products.

In the second group of kidney function tests, those depending on the elimination of a single substance, most of the dye tests, fall, such as phenolsulphonephthalein, methylene blue, the Addis urea ratio test, and the Van Slyke urea clearance test. The same objections hold for these tests as for the first group. Special mention should be made of the Addis urea ratio test because attempt is made to put strain on the kidneys by giving large doses of urea and forcing fluids. However, the other objections still hold.

The "water excretion" test of Volhard has a serious objection. As pointed out, diseased kidneys have no difficulty in eliminating water when it is actually available. The difficulty comes in that the ingested fluid may be held in "fluid-hungry" tissues and never presented to the kidneys for excretion. The lack of diuresis is erroneously taken as an evidence of kidney damage. It is more a test of an "edematous state" rather than of kidney function.

Hedinger and Schlayer originally proposed using specific gravity of the urine as a test of kidney function. But employed in the form that they proposed, information was misleading. Newburgh and I, desirous of devising a satisfactory test, have studied the requirements necessary to bring out the real value of determining the specific gravity of the urine.

In order to put sufficient strain on the kidneys to obtain maximum function, the patients are placed on an eighteen hour fast of both food and fluid. Thus waste products continue to be produced, but must be excreted in less and less available water as the fast continues. In order to obtain a definite amount and kinds of waste products for excretion, the patient is kept at a certain definite metabolic level. This is secured by keeping the patient at bed rest, on a definite diet and 1500 c.c. daily fluid intake during the test. Long has pointed out that the specific gravity of the urine is a fairly accurate index to the total solids. Total solids can then be measured rather than the elimination of a single substance, such as urea. The specific gravity is more than an index to excretion of total solids. It is also a fairly accurate statement of ratio between water and total solids.

Thus with these in mind we have attempted to secure maximum function of the kidney during the test, presented a standard waste for excretion, measured the total solid excretion in relation to the amount of water used over a definite period of time and with the use of a technic and apparatus within the range of the average practitioner.

In practice the test is done as follows: The patient is put at bed rest on a definite diet with 1500 c.c. of fluid intake daily for a period of three days. At 6:00 P. M. of the third day all intake, both food and fluid, is stopped until noon the following day. The urine specimen from 10:00 A. M. to noon is obtained and its specific gravity carefully determined by use of the pyknometer.

This technic was used on one hundred and twenty cases, twenty-five of which were normal, and ninety-five of which had clinical evidence of kidney damage. All the normal cases reached a specific gravity of 1.026 or above. All but four of the abnormal cases failed to reach 1.026. These four were cases

of essential hypertension and the high specific gravity was presumably evidence of the satisfactory state of the kidneys.

In comparison, this test conformed to the clinical findings in 36 per cent more cases than the P. S. P. test and in 73 per cent more cases than the blood N. P. N.

The test is not ideal, and presents some objections in its present state. It is, however, more accurate than the commonly used tests of kidney function. It is also simple and within the range of the average practitioner.

The objections have provided new fields for further study, and consequently the possibilities of improving the test.

GAS-BACILLUS INFECTION

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Gas-bacillus infection or gas gangrene is a virulent infectious disease occurring in wounds involving destruction of tissues, particularly striated muscle; and characterized by extensive necrosis of the part involved, together with production of gas in the tissues.

The condition was first described by Maisonneuve in 1853 under the name "gangrene foudroyante." In 1864 Pirogoff described the same condition, naming it "acute gangrene edema." It has also been described under such names as gas gangrene, acute mortification, fulminating gangrene, emphysematous gangrene, gaseous phlegmon and traumatic spreading gangrene.

Little was known about this subject previous to the recent World War due to relative infrequency of the disease. During the recent war, gas-bacillus became a frequent and severe complication of wounds. The soil in Northern France and Belgium was highly contaminated with many forms of organism due to the dense population and extensive fertilization. Trench warfare offered a splendid opportunity for contamination of the skin and clothing with mud and filth and when wounds were incurred a favorable soil was formed in the torn and lacerated tissues for incubation of the organisms. Cases were more frequent after a rain or during wet weather. Etiology: Infection may occur in any of three types of wounds.

1. Crushing injury with rupture of the skin.
2. Puncture wounds with excessive bloody extravasation.
3. Laceration with extensive tissue damage.

Under these heads may be classified gunshot injuries, shrapnel and shell wounds, compound fractures contaminated with soil or street refuse, crushing injuries of the street or injuries from high explosives. Gas infection following factory injuries is rare.

Several organisms are found, all of which are anaërobic in their growth. In the presence of oxygen, incubation does not occur, but the infection may become latent due to the presence of spores. They are divided into two main groups according to their biologic reaction. The saccharolytic group or those having the property of fermenting carbohydrates include Bacillus fallax, Bacillus welchii, vibrion septique, Bacillus œdematiens. The proteolytic group or those causing protein decomposition are Bacillus Sporogenes. Bacillus histolyticus and Bacillus putrificus. The proteolytic group cannot produce gas gangrene without the presence of a saccharolytic member.

Bacillus welchii, the most commonly found organism, was cultured from 72 per cent to 80 per cent of wounds in the recent war. In 10 per cent of these, gangrene set in as a complication. It was discovered independently by three different workers: First by Welch and Nuttall in 1892, who gave it the name Bacillus aërogenes capsulatus. In 1893 Frankel described a similar organism as Bacillus perfringens which was later identified as the Bacillus welchii. The organism is a short, gram-positive, nonmotile bacillus occurring singly or in pairs. It has a definite capsule and except for a

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few strains is non-spore forming. The organism is found as a normal inhabitant in the intestines of humans and certain animals. It is both saccharolytic and proteolytic but never attacks proteins in the presence of carbohydrates. It produces a soluble toxin which has hemolytic properties. It rarely occurs in pure culture but usually with other gas bacilli of either group and often in symbiosis with streptococcus, diplococcus and Bacillus proteus.

Vibrion septique was discovered by Pasteur in 1877. It was found in 12 to 16 per cent of war wounds usually associated with Bacillus welchii. It is a slender gram-positive, motile, spore-forming anaërobe. Spores are oval and subterminal or central. It produces a powerful hemolytic toxin.

Bacillus œdematins was first described in 1915 by Weinburg and Sequin, being found in 34 per cent of war wounds. It is a large gram-positive non-motile bacillus with subterminal spores. It may occur in chains in culture. A milder soluble toxin is produced.

Bacillus fallax was also described by Weinburg and Sequin during the war and is comparatively rare. It is a gram-positive, slightly motile, capsulated bacillus with subterminal spores. It it non-hemolytic, no toxin is produced and is but slightly pathogenic.

Bacillus sporogenes was described first by Metchnikoff in 1908. Weinburg and Sequin found it to occur in 27 per cent of war wounds. This is possibly the same organism as Koch's bacillus of malignant edema. It is a gram-positive actively motile spore-forming organism.

Bacillus histolyticus is a gram-positive, motile, spore-forming anaërobe with large oval terminal spores. A non-hemolytic soluble toxin is formed. The infection is unusual in that there is rapid destruction of tissue, so that within 24 hours of inoculation the bone may be exposed and yet the animal appears well. Eight cases were reported by Weinburg and Sequin during the World War.

Bacillus putrificus was described in 1884 by Bienstock as being a gram-positive, motile, non-pathogenic anaërobe with a terminal oval spore.

OCCURRENCE

The mode of infection is mechanical and usually occurs at the time of injury. Fragments of clothing, street dust or other foreign matter is carried into the wound by the injuring body and is embedded in the lacerated tissues. This becomes shut off from the outside air by blood clot, exudate and closing in of the wound, thereby forming an ideal culture medium for the growth of anaërobic organisms. Striated muscle is most often and most readily affected. Infection without the involvement of muscle tissues is rare. Occurrence in order of frequency is in the thigh, leg, arm, fore-arm and foot. Gas infection in the hand is uncommon, rare in the face, neck, chest and abdomen and never seen in the head, except by accidental contamination with surgical instruments.

PATHOLOGY

Growth of the organism usually begins at the site of an infarct or where the blood supply has been cut off. During incubation, gas and toxins are produced. The gas (by pressure) causes a shutting-off of the blood capillaries and a subsequent anemia of the adjacent tissues. The organism attacks this tissue, fermenting the muscle sugars, causing the further production of gas, while the toxin digests the tissue, forming an amber colored foul smelling fluid, which has a characteristic mousy odor. This fluid becomes brownish in color when blood is present. The muscle appears at first pale, later becoming a dark-red, after which liquefaction takes place. The gas may travel along the muscle planes causing metastatic areas of infection. The accumulation of fluid in the tissues results in a severe edema. Subcutaneous tissues may be involved but this is usually secondary to infection in the muscles. There is a little tendency of the infection to penetrate inter-muscular septa and spread to other groups of muscles. When this does occur the whole limb may become gangrenous due to shutting-off of the blood supply to the distal part and dry gangrene of the terminal parts may be present as well.

Thrombosis of the larger vessels may occur. The muscle is affected at irregular intervals, there being often normal tissue between areas of infection. Necrosis occurs more rapidly towards the periphery. Small glittering silver bubbles denote the presence of gas. Later the muscle becomes brown or black with the presence of large gas bubbles and forms a pasty foul-smelling substance, the product of tissue necrosis.

Areas of waxy necrosis of the muscle may appear remote from the primary focus. Small hemorrhages may appear on the skin and the presence of gas and fluid in the subcutaneous tissues is indicated by the edema. Obliterative endophlebitis and endarteritis are often seen which may be due to pressure changes or to the presence of a thromboembolus. Subcutaneous gas is usually from the muscles. There are three zones of development characteristically present. The first zone or primary focus consists of a tearing wound with ragged necrotic edges and having a foul exudate which contains gas, bacilli and spores. Foreign bodies may or may not be present in the wound. The second zone is adjacent and presents an area of hemolytic edema in the subcutaneous tistues and contains gas bacilli. The third zone is formed by the remote areas having a toxic yellow edematous fluid with small bubbles of gas and showing discolored areas over the skin surface. Various gases are formed, among which are hydrogen sulphide from protein decomposition, also carbon dioxide from fermentation of muscle sugar. The gases readily support combustion.

PHYSICAL SIGNS

The first signs of gas bacillus infection appear in 6-30 hours. The skin edges are necrotic, beneath which is dark crepitant muscle. There is at first little swelling or pain while the skin is a light copper color around the wound. Bubbles are present in the discharge. Absence of heat and redness is quite noticeable. Late, the skin becomes dark around the wound and the discharge becomes foul and profuse. The skin shows orange brown patched over the gas bubbles and edema is seen in the involved area. The areas are quite painful.

The skin becomes irregularly discolored and small hemorrhages of the skin may be present. On palpation, the tissues are crepitant and resonant on percussion due to the presence of gas. On incision of the tissues, a blowing sound of escaping gas can be detected.

SYMPTOMS

At first, there is a slight rise in pulse and temperature with local tenderness of the wound. Later, the temperature and pulse rise sharply to 104°-105° and 140-160 respectively. There is marked pallor, the tongue is moist and the breathing is rapid and of the Kussmaul type. Dyspnea may be due to the acidosis or to the action of the excessive carbon-dioxide on the respiratory center. If septicemia occurs, the pulse rises further while the temperature falls. The patient becomes markedly prostrated, and may be drowsy though consciousness is usually maintained. There is a marked hyperhidrosis, as well as icterus. The blood shows diminished coagulability, increased bile pigments and decreased hemoglobin. The urine contains albumin and granular casts and often blood. The temperature usually falls below normal before death. The course of the disease is similar to that of poisoning from snake venom.

ROENTGENOLOGICAL FINDINGS

The roentgen-ray examination is of prime importance. Suitable radiographs of the part involved should be made in two different planes and after all casts, splints and dressings have been removed. Radiographs should be developed, fixed and examined as soon as possible and not placed in the regular routine of the department. It is my practice to X-ray all compound fractures and suspected gas infection cases no matter how slight or extensive the injury may be, every six hours until a diagnosis has been established or until all suspicious gas shadows in the soft tissues have disappeared. At six and twelve hours, gas shadows are usually present in the soft tissues. Examination is repeated to determine whether these shadows have increased or decreased. Increase in the shadows indicates the presence of gas infection. Decrease in the shadows indicates that they were due to the presence of air introduced at the time of injury. Gas infection due to Bacillus welchii shows irregular beaded streaks of decreased density in the muscle planes and extends cephalad and caudal from the wound. Shadows of decreased density may be also found in the subcutaneous tissues adjacent to the wound. Findings in gas infection due to other organisms are essentially the same, except that the soft tissues present a feathery appearance due to a different distribution of the gas. Deep seated gas is recognized on the radiographs before crepitation of the soft tissues is clinically apparent. The extent of gas formation is not an accurate diagnosis of the extent of infection since gas bacilli can be found beyond the demonstrable gas shadows. Low voltage should be used in order to accentuate the soft

tissue shadows. Routine examination of suspected cases at frequent intervals, besides being a necessary clinical procedure, also stimulates inter-department coöperation, which is very important especially between the departments of bacteriology, roentgen ray and the surgeon. The reason for the above statement is that it has been noted in hospitals that the death rate from gas infection is rather in inverse proportion to the extent of coöperation among the departments mentioned.

DIAGNOSIS

Diagnosis is made on the findings of altered breathing and rapid weak pulse associated with a foul discharge from the necrotic wound and gangrenous tissue. The presence of gas in the tissues and the findings of the anaërobic organisms in the discharge is pathognomonic of a gas-bacillus infection. The rapid course of the disease is also more or less characteristic. Positive roentgenological findings offer the best practical means of establishing an early diagnosis. Stab cultures from the wound also give early positive findings.

PROGNOSIS

Prognosis is dependent on the time when treatment is instituted after infection has taken place. Statistics vary from 26 to 56 per cent mortality or even higher when treatment is delayed. When treated within twelve hours after injury, the mortality is 10 per cent, and within twenty-four hours, 50 per cent. Untreated cases are invariably fatal. The presence of foreign material in the wound is of bad prognosis. Secondary pyogenic infection tends to increase the gas bacillus infection and hasten the process. Due to the fact that the pyogenic organisms are aërobic and consume the oxygen present in the tissues, the field is rendered anaërobic, thereby aiding in the spread of the disease. The case is fatal when the organism invades the blood stream. Sudden death may follow gas embolism.

TREATMENT

Early recognition of the disease and institution of treatment is essential. The case should be strictly isolated and individual dressing trays used. Thorough debridement of the wound should be performed removing all foreign matter, and removing by sharp dissection all torn and necrotic tissues. The wound should remain open in order that oxygen may be constantly present about the tissues. The patient should be so placed as to promote a good blood supply to the injured part. Where gas and edema are present, the skin should be widely and frequently incised and the wounds exposed. Incisions should be made longitudinally and extend into healthy muscle. Thorough and frequent irrigation of the tissues with potassium permanganate solution, hydrogen peroxide or more especially Carrel-Dakin solution (0.5 per cent hypochlorous acid) should be done. Infiltration of the healthy tissues above the affected area with oxygen will in many cases limit the spread of infection. Amputation in certain cases is advisable and is dependent on the extent of the infection and the general condition of the patient as well as the severity of the surgical procedure. Intravenous injection of sodium bicarbonate solution to counteract the acidosis is of value. Shock should always be controlled. Serum therapy should be used in all cases. A serum is now available on the market containing both tetanus antitoxin and welchii antitoxin. Blood transfusion is of value in cases of gas infection where there is marked blood destruction. Also sutures about the wound should be avoided and, if present, should be removed at once. Amputation when performed should be high up in the healthy tissues. An X-ray examination is of great value in determining the approximate extent of the infection and a suitable site of amputation. The wound should not be closed until all evidence of gas and edema is gone and cultures from the tissues are negative.

We feel that the new perfringens serum, if given every four hours in 100 unit doses using from six to ten doses according to the severity of the infection, intramuscular or intravenous, the latter being by far the most efficient method of treatment, has greatly reduced our mortality rate. Of course, its success partially depends on an early diagnosis.

These findings are based on a study of about seventy-five gas cases in which all methods of treatment were used. The following is a copy of history and mode of treatment in one of our most recent cases treated with perfringens serum:

A. G., H. 14819, aged 7 years, complained of swelling and pain in the left hand and forearm.

On October 15, 1930, the patient fell from a porch to the ground and suffered a compound fracture of

the left radius and ulna which was reduced by a private doctor. Two days later, October 17, the parents called a doctor, because of fever, swelling, blebs and beginning gangrene of the left hand. They were told that the splints had been applied too tightly. On October 18 the patient's condition became worse and he was admitted to hospital.

Past history.—The patient had always been healthy, bright, active, normal in every way. He had had measles; made an uneventful recovery.

The illustration is that of the left arm showing the fracture of both the ulna and radius with the tissue distended with gas. This gas is seen extending upwards to about the lower half of the humerus.

History by symptoms.—Entirely negative, no symptoms suggesting any pathology. Physical examination revealed a well developed, well nourished Italian boy of apparent stated age, apparently acutely ill.

By symptoms—negative except for left arm. The arm from the shoulder down was swollen. From the elbow to the finger tips, the swelling was most marked. Large bluish blebs filled with fluid appeared on the skin. The skin was dark colored, in places black, but generally was dull dark red. Air crepitus was felt halfway up the arm to the shoulder. There was no sensation, no pulse, below the elbow.

Temperature was 102; pulse, 110; respiration, 22.

A radiograph taken within an hour after admission showed "extensive gas infection. Also fracture at the junction of the upper and middle thirds of the radius and lower and middle thirds of the ulna in good apposition and alignment."

Treatment.—The patient received 26 c.c. gas gangrene serum immediately upon admission. A few hours after admission (when parental authority had been obtained) slits were made through the skin and fascia in the left arm and *the muscles were dissected free* from the wrist to the shoulder. The patient's condition was poor. He was given caffeine sodium benzoate and adrenalin at the time of operation.

After operation the patient was treated with perfringens serum as follows:

11-18-30, 100 units anti-serum 26 c.c., 1:30 P. M.; 2:30 P. M.; 8:30 P. M.
11-19-30. 3:30 A. M.; 10:00 A. M.; 1:30 P. M.
11-20-30. 6:00 P. M.
11-21-30. 2:00 P. M.; 8:15 P. M.
11-22-30. 4:00 A. M.; 11:15 A. M.; 5:00 P. M.; 9:30 P. M.
11-23-30. Operation.
11-24-30. 2:00 A. M.; 6:00 A. M.
11-25-30. Temperature normal.

In all, at least 16 ampules (100 units) were given intramuscularly over a period of less than seven days, six of these being given in the first twenty-four hours.

Local treatment consisted of 20 minute warm permanganate soaks Q. two hours on the even hours, and hydrogen peroxide irrigations Q. two hours on the odd hours,—light cradle all the time.

On October 23, there was a definite line of demarcation just above the elbow so at 9:15 A. M. the arm was amputated at the junction of the upper and middle thirds.

On October 24 the patient's condition was greatly improved; about noon anti-serum was discontinued and on October 25 the patient's temperature fell to normal. He made an uneventful recovery with good closure of the incision made by amputation. He was discharged November 11, 1930.

Laboratory findings October 18 were: Hemoglobin, 70 per cent; white blood cells, 29,200; polymorphonuclears, 93 per cent; mononuclears, 7 per cent. Gas bacilli (welchii) were found in large numbers in daily cultures until November 5, after which time stab cultures proved negative.

CONCLUSIONS

1. Ray all suspected cases of gas infection every 6 hours.
2. Ray all compound fractures occurring as a result of a street accident.
3. Use perfringens serum 100 unit doses every 4 hours. Doses varying from 4 to 10, according to the severity and extent of the infection.
4. Complete debridement of all wounds.
5. Never suture wounds in a suspected case of gas infection.

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DUODENITIS

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The literature is rather scant regarding the description of duodenitis, its relationship to ulcer being barely mentioned. However, as far back as 1897 Hemmeter described a condition which he included in his discussion of chronic gastritis which undoubtedly resembles the cases which at present are called duodenitis. He differentiates two main types, a hypertrophic and an atrophic type. The hypertrophic type is described as a diffuse redness with inflammatory infiltration of the interglandular and submucosal connective tissue with small round cells. Frequently the muscularis is also hypertrophied. When intense inflammatory reaction occurs, necrosis of the mucosa and submucosa form shallow erosions and ulcerations with hemorrhage.

In this connection the observation of Boas, Huseman, Puhl, Roeder, MacCarthy and Judd are of interest. Roeder investigated the question of duodenitis and inferred that it is a relatively frequent condition. He believes that the chronic type is quite common and describes characteristic cobweb-like peritoneal adhesions surrounding the first portion of the duodenum, attached at times to the liver and to the gall bladder. The walls of the duodenum feel thickened and the peritoneal coat seems congested.

Boas, Huseman, Konjetzney and Puhl have described acute shallow erosions of the mucosa of the stomach and duodenum associated with a duodenitis and gastritis and at times complicated by gross hemorrhage.

In discussing duodenitis, MacCarthy writes, "There is cellular destruction, congestion, edema and migration of leukocytes, lymphocytes and endothelial leukocytes. The condition is seen as localized and also diffuse lesions; when diffuse, the appearance of the organ at exploration is not readily confused with duodenal ulcer; but when it is localized, the external appearance of the serosa is indistinguishable from that seen in association with small ulcers."

Judd has described two distinct lesions in the duodenum, either of which may be found when there is a characteristic history of peptic ulcer. The true crater ulcer is recognized by the congestion and stippling of the serosa over and surrounding the lesion with more or less scar tissue and deformity of the duodenum. The wall of the duodenum is always indurated, and a tumor may form as a result of the defensive reaction of the surrounding tissue if the ulcer has perforated the bowel slowly. The second type he called "duodenitis," or "submucous ulcer," which is characterized by congestion and stippling of the serosa, but with slight induration. On opening the duodenum there is a localized or diffuse inflammatory condition of the duodenal mucosa and often small superficial mucosal abrasions. The mucosa bleeds easily if manipulated.

Rivers has recently reported three cases of duodenitis, all of which had hemorrhage rather than dyspepsia as the prominent symptom. If operation was performed very shortly after the occurrence of hemorrhage, acute lesions were demonstrable in the potential areas of peptic ulcer. If operation was postponed, and later advised mainly because of the history of hemorrhage, very little was found to account for the bleeding.

In his opinion many of the cases of so-called appendiceal bleeding or gall bladder bleeding are probably caused by such acute lesions in the stomach or duodenum.

Nickel has previously reported the experimental production of duodenitis in animals by the intravenous injection of bacteria isolated from foci of infection in patients having duodenitis. Nickel and I have also reported a study of surgically resected peptic ulcers and cultures from foci of infection in patients having such lesions, and have been able to reproduce the lesions in animals with the organisms isolated and also have demonstrated the organism (a type of streptococcus Viridans) in surgically resected human ulcers as well as in the experimentally produced ulcerations. In our opinion the organism is essentially the same in duodeni-

†Dr. Hufford holds the degrees of B.A., M.S., and is a graduate M.D. of Loyola University School of Medicine, 1922; in 1923 he completed the National Medical Board examination, and was intern at Mercy Hospital in Chicago and resident in that hospital for the late B. W. Sippy. He was connected with the Mayo Clinic for three and one-half years as a Fellow and Assistant in Medicine. He has been practicing internal medicine in Grand Rapids since May, 1927, doing chiefly gastro-intestinal work.

tis and peptic ulcer, and the difference in histopathology is the difference in the reaction of the individual duodenum to an invading organism. We might therefore define duodenitis as a circumscribed or diffuse inflammatory hypertrophic condition usually involving the first portion of the duodenum and often associated with shallow erosions or ulcerations, and not infrequently hemorrhagic.

Dr. Nickel and I made a study of forty-seven surgically verified cases of duodenitis in some of which definite ulceration was also associated. The resected specimens were stained and fixed for histopathologic study and the case histories carefully analyzed. We were particularly anxious to see if there was a characteristic symptom-complex for duodenitis.

Forty of the forty-seven patients were men, seven were women. The average age was 40.6 years and the average age at the onset of symptoms was 32, while the average duration of pre-operative symptoms was 8.6 years. We were unable to find any relationship of this condition to occupation. Twenty-one of these patients did work which required considerable physical effort, whereas twenty-six were employed in sedentary occupations.

The gastric acids in this group were uniformly quite high. A positive diagnosis of duodenal ulcer was made by the roentgenogram in forty-one out of the forty-seven cases, yet in only eight of these forty-one cases was the pathologist able to discover an actual ulcer in the surgically resected tissue of the duodenum.

In the thirty-nine cases in which the pathological examination revealed inflammatory change but no evidence of ulcer formation, the symptoms for ulcer were a little atypical. The relief of food and alkali was not as definite as in ulcer. Twenty-seven complained of much flatulence soon following meals. Frequently the time of onset of epigastric pain or discomfort was described as coming on late after the meal and often vague. In twelve, there was a history of nausea, and vomiting occurred at regular intervals, usually at the height of the distress. The majority of these cases gave a history of remission of their symptoms. Referred pain into the back or chest was described by twenty-four of the forty-seven. In twelve, acute pain was experienced, this mainly occurring in those cases in which actual ulcer was found. Sixteen gave a history of hemorrhage. It is interesting that some of the most severe hemorrhages occurred in those cases in which only inflammatory changes were discovered at operation. One would get the impression that the symptoms produced by duodenitis alone were not as severe as those produced by duodenal ulcer associated with duodenitis.

There was another group of these patients who complained of very little dyspepsia with slight distress in the epigastrium, coming on at irregular times after meals, but who had periodic attacks of bleeding. The roentgenograms in these cases were not always positive for any duodenal lesion. The acids were usually low. There was frequently a history suggesting infections such as tonsillitis, adenitis and arthritis, etc. In these cases, surgery was usually advised, mainly because of the history of hemorrhage, and at operation, particularly if this was done at a considerable period following the hemorrhage, very little was found to account for the bleeding grossly, but microscopic study of resected tissue showed mild but definitely inflammatory reaction.

The symptomatology of duodenitis would seem to resemble the clinical picture of duodenal ulcer, and yet in part reflex gastric disturbance. It is impossible to differentiate with certainty, clinically, those cases which have only duodenitis from those which have duodenal ulcer. When there is an association of duodenal ulcer with duodenitis, the symptom-complex is very much like that presented by duodenal ulcer. In those cases where there is only inflammation in the duodenum without actual ulcer formation the symptoms lose the sequence of events which we usually associate with peptic ulcer. In nineteen cases, the story given by the patient might lead to the diagnosis of chronic cholecystitis.

Dr. Kirklin has recently published the roentgenoscopic data on duodenitis and brings out certain roentgenologic differences between duodenitis and frank duodenal ulcer which helps to differentiate these more clearly than is possible to do clinically. He states that the duodenal bulb in duodenitis is quite irritable, greatly deformed and diminished in size; often it is represented by a mere skeleton of the barium content. Margins of the bulbar shadow tend to be

hazy and indistinct. The irritability of the bulb is characterized by writhing and rapid emptying, making it difficult to fill the bulb for any length of time. The spastic deformity is more pronounced than that produced by true ulcer alone and is more unstable unless the bulb is immobile. Since a crater is lacking, a marginal niche or central barium fleck cannot be seen. In general the stomach is small and hypertonic with exaggerated peristalsis. Six hour barium retention never occurred in this series.

This complex of signs is not essentially different from that resulting from a reflex irritable bulb as may be found associated with disease of the gall-bladder or appendix. Reflex irritability is more likely to change rapidly in contour and assume a normal outline more frequently. Such differences of course are slight and a definite diagnosis cannot always be made. However, a bulb which is reluctant to take on a normal outline is open to suspicion and particularly so if during the emptying phase the cap is spastic, irregular and skeleton-like.

The question arises "Is duodenitis just a stage of true ulcer formation or does it always remain a definite clinical entity?" Konjetzney, in 1924, declared that in every one of twenty-two cases of duodenal ulcer pronounced chronic, gastritis and duodenitis were present, and in 54.5 per cent of them there were also fine and coarse mucosal defects. He believes that duodenitis is antecedent to duodenal ulcer, and that chronic ulcer forms as a result of unknown functional mechanical factors on the basis of chronic duodenitis.

Judd concludes from his study that duodenitis is not a stage from which true ulceration invariably develops, as shown by the fact that the average duration of symptoms of the two lesions is about the same in his series of cases.

It would seem best to conclude that duodenitis may definitely run its course as such or with but slight submucous ulcer formation in certain cases, but in other cases, where a greater gastro-intestinal chemical upset is produced due to the presence of the inflammatory reaction in the duodenum, the corrosive action of the highly acid gastric secretion and the upset alkaline intestinal secretion starts an erosion which penetrates into an area of this inflammatory zone where the defense reaction is poorest and a definite peptic ulcer is formed.

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PROGRESSIVE LIPODYSTROPHY*

REPORT OF CASE

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There are in the literature several rather complete reviews[1,2,3,9] of the entire subject of progressive lipodystrophy, so here we shall report briefly a case with atypical onset. It is only by reporting these cases as often as they are noted that we can hope to arrive at even generalizations regarding the etiology of the disease. Numerous writers have endeavored to discuss the causal factors, but as yet there are too few cases mentioned in the literature to warrant any conclusions.

*We are indebted to Dr. F. N. Smith and Dr. D. A. Haller for permission to report this case.

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REPORT OF CASE

Chief complaint: "Sunken cheeks."

Family history: Father died of apoplexy, aged forty-six years. He had been overweight for years, with no abnormal distribution of fat. Mother died of cancer, aged forty-six years. Little is known of her build, except that she had a long, thin face. The

patient has two brothers who are living, and both are tall and slender. She has two living sisters, who are slightly obese but normally proportioned. No relative is known to have had a disease similar to the patient's. Past history: As an infant, the patient was extremely fat and remained so up to the age

Fig. 1. Bilateral absence of subcutaneous tissue.

of about seven years. At that age, she had numerous minor infections, such as boils, styes, felons on fingers, etc. She had a tonsillectomy at sixteen years of age. At the age of eighteen, she had "meningitis." During the next year or two, her face became longer and thinner, but not sunken in at the cheeks. At the age of nineteen and for three years following, she had, each spring, attacks of chills and fever, called "malaria," which ended by the month of July or earlier if she changed her geographical location. Without apparent cause, her hearing began to fail at about the age of twenty-three. Three years later, she had an attack of appendicitis while away from home, but she did nothing about it until returning to her family physician, who then advised operation. Two months later, she had an appendectomy, bilateral oöphorectomy and salpingectomy. After the operation, she weighed only 105 pounds; previously her best weight had been 135 pounds.

"Soon after the operation," she began to get thinner from the waist upward, including the face and arms, while the legs remained of normal proportion. This loss of fat was rather rapid, in that it took place over a period of a few months, and that of the cheeks was particularly noticeable because of their sunken condition. The disturbance of the distribution of fat had remained unchanged up to the time of our examination.

Some six months after the laparotomy (at the age of twenty-six years), she became subject to attacks of spasms (the attacks would last five to ten minutes) and "my whole body, including my tongue, face, arms, and toes, would seem to become locked up or stiff." "If I tried to stop it, I only made the spasms worse." If left alone, she apparently would relax spontaneously after five to ten minutes. These attacks were usually associated with emotional outbreaks, chiefly crying. The tonic spasms varied in frequency and were present from two to three years after the operation and then suddenly stopped of their own accord.

Present illness: The patient came into the clinic with no physical or mental complaints other than sunken cheeks, which she desired to have changed by plastic surgery if it were possible.

Physical examination: General examination: The patient's upper body presented a striking contrast to the lower portion; the face, arms, and thorax, down to the iliac crests, had absolutely no palpable sub-

Fig. 2. Normal female contour from iliac crests downward.

cutaneous fat. This condition gave the upper part of the body a masculine appearance, while the lower part showed the normal female contour. Her weight was 117.5 pounds. The hair distribution was normally feminine.

Examination of the nose, throat, thyroid, and lymph glands was negative. The heart was not enlarged. It had a normal rate and rhythm. No accentuations nor murmurs. Lung fields were clear to physical and X-ray examination. Abdomen: No masses. The spleen and liver were not felt. On vaginal examination, the ovaries and tubes were not felt.

The routine laboratory examinations were negative. Neurologic examination: She was decidedly self-conscious about her physical condition and had consulted many physicians in hope of finding someone who could remove the disfigurement, particularly of her face.

Her station and gait were normal. There was no ataxia and no tremors. No adiadokokinesis. No astereognosis. There were no deformities, other than the disturbance of fat which was mentioned above. There were no muscular atrophies except a slight bilateral facial atrophy.

Cranial nerves: The pupils were regular and equal; reacted to light and accommodation. The extra-ocular movements were normal. There was no nystagmus. There was no facial, jaw, or tongue muscle paralysis. No pharyngeal paralysis. There was a marked bilateral nerve deafness.

Reflexes: The deep reflexes were all normal. There was no Babinski. The skin reflexes were all normal.

Sensation: Motion and position were normal. Sensation for pain, touch, and vibration was normal.

Vasomotor: Negative.

COMMENTS

As this case of progressive lipodystrophy began after a bilateral oöphorectomy and

two cases have been reported as occurring after menopause,[4,8] we are inclined to consider that the disturbance or lack of ovarian secretion has some causal relation to the etiology of this disease. Up to the present time, there has been no experimental evidence to prove or disprove this surmise. The usual age of onset of this disease is from six to ten years of age, and many cases beginning in childhood have been described.[5,6,7] The question of the rôle played in the etiology by the various minor infections which this woman has had must also be considered.

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THE EFFECT OF YEAST EXTRACT ON INTESTINAL SECRETION

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The therapeutic value of yeast in gastro-intestinal disorders has long been recognized. The discovery of vitamins as essential accessory food factors, and particularly the fact that yeast contains Vitamin B in considerable quantities, led research workers to more detailed and careful investigation of the effect of yeast on digestion.

This article is a report of a study of the physiological action of yeast extract on the intestinal mucosa and of its effect on the periodical secretion of intestinal juice. The "periodical activity" of the digestive apparatus was discovered by W. N. Boldyreff in 1901. The nature of the "periodical activity" is discussed in his recent work[1] which contains also a full bibliographic account of the most important papers pertaining to this subject. Those who are primarily interested in gastro-intestinal secretory and motor phenomena are referred to this publication.

In 1926, at the suggestion of Dr. John Harvey Kellogg, the Medical Director of the Battle Creek Sanitarium, the author undertook the study of the effect of yeast extract,* rich in Vitamin B, on the functional activity of the small intestine.

Hawk and coworkers,[2] in a clinical study of the action of bakers' yeast on the gastro-intestinal tract made in 1917, report that yeast relieves constipation and has a strong laxative effect. Murlin and Mattill[3] arrived at the same conclusion and state that brewers' yeast noticeably diminishes intestinal putrefaction. Thorup and Carlson,[4] however, question the value of yeast as a laxative, stating that: "No clear-cut conclusions seem to be warranted on the basis of the experiments on man." These authors, nevertheless, report an increase in the number of stools in approximately 55 per cent of human adults under observation. In man and rats they observed "some increase in moisture content of the stools during the period of yeast ingestion." This statement confirms the previously published findings of other investigators and points toward the increased secretory work of the intestinal canal; perhaps also either diminished absorptive faculty or increased motility of the intestinal wall. Polansky[5] studied the response of isolated segments of the small intestine outside of the organism to the extracts of yeast during their passage through the lumen. He found that *Saccharomyces cerevisiæ* had a definite stimulating effect on the intestinal tonus, and he ascribes this action to the presence in the extract of the growth-promoting fraction of Vitamin B complex. Still and Koch[6] found that the ingestion of yeast caused a decrease of urinary phenols, which is interpreted by them as the result of the

*A food product commercially known as "Savita" made from dried brewers' yeast (by Battle Creek Food Company).

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Published works are devoted to the physiology of digestion and pancreatic function.

antiputrefactive and laxative action of yeast. Dr. Helen S. Mitchell of the Battle Creek Sanitarium showed the author tables demonstrating the effect of substances containing Vitamin B on the intestinal motility of albino rats. In the groups of animals receiving yeast extract or wheat-germ less time was required for evacuation of the bowels (private communication).

On the other hand, some investigators,[7] in observations of the contractions of isolated segments of the intestines of rats, did not find any significant change in the motor activity of the intestine in the animals kept on a high yeast diet. These experiments as well as those of Polansky[4] were conducted on intestines excised from the body, and while being somewhat different in the experimental method and diametrically opposite in the obtained results, are both open to the same criticism. Their data are not strictly comparable with the normal response of the intestine of the living animal.

The effect of Vitamin B on gastric motility was studied by Rose, Stucky and Cowgill.[8] It was found that in B-avitaminosis the condition of gastric atony develops and that Vitamin B promotes gastric movements.

EXPERIMENTAL

A series of observations were made by the author on the effect of yeast extract on a litter of growing puppies. Three puppies were placed on a diet which contained yeast extract, three others being kept on a diet identical in all other respects but free from yeast extract. Puppies which received yeast extract showed more frequent bowel movements and shorter time required for the evacuation of the food residue, as shown by the first and last appearances of carmine in the feces, the dye being given orally half an hour before a meal. These observations on puppies are only of a preliminary nature and are not regarded as conclusive; yet since they confirm the data of previous workers it may be considered permissible to make a brief reference to them.

In the normal organism the digestive tract maintains a certain periodic rhythm (W. N. Boldyreff); the periods of motor activity are closely associated with the secretory work of the digestive glands (secretion of pancreatic, intestinal juices and bile) and occur at regular intervals.[1,9]

The secretogogue action of yeast has been reported by various investigators who found that yeast not only promotes gastric secretion but also has a "secretin-action."[10,11] The information regarding the action of yeast on intestinal secretion is somewhat scanty. The increase of moisture content of the feces of animals receiving yeast may be considered as an indication of increased intestinal secretion (or increased motor work of the bowel), but further experimental evidence in this direction is wanting.

The object of the present investigation was to study the effect of irrigation with yeast extract of the isolated loop of the small intestine on the quantity of the juice secreted and to compare it with the spontaneous periodical intestinal secretion.

The experiments were carried out on a male mongrel dog, 2 years old, weighing about 20 kilo. The dog had a Thiry-Vella fistula. The beginning of the jejunum was used for the isolated portion. The length of the isolated loop was 25 cm. The animal had fully recovered at the beginning of the experiments, having been operated on the year before, and was in an excellent condition of health. The experiments were performed with the animal in a fasting condition; in each case it was fed 19 hours before the experiment. The amount of normal intestinal secretion was first established in consecutive observations. The collection of intestinal juice was made for 6 hours each time and the quantity of juice secreted was measured. The average secretion of the intestinal juice from the isolated portion of the jejunum in this dog was about 3.0 c.c. in 6 hours. The accompanying table gives the values of normal intestinal secretion obtained spontaneously from the isolated loop of the small intestine and the values obtained after the lumen of the isolated portion of the small intestine was irrigated, half an hour before the beginning of the collection of intestinal juice, with 100 c.c. of liquid warmed to 37.5° C. In the latter case the substance used for the irrigation of the intestinal loop is marked at the bottom of the corresponding column. The liquids used were heated to 37.5° C. in order to correspond approximately to the body temperature of the dog, to prevent possible reaction due to the thermal effect.

When the lumen of the isolated loop of the small intestine was irrigated by the yeast extract solution, 10 per cent strong, the figures obtained showed a marked increase in

TABLE

THE EFFECT OF YEAST ON INTESTINAL SECRETION

Dog No. 27, male, 2½ years old; mongrel, weighing 21 kilo.
The beginning of jejunum used for Thiry-Vella fistula, length 25 cm.

1st hour	0.0	0.6	0.0	0.0	2.0	0.0	0.4	1.5	2.4	3.4	0.0
2nd hour	0.0	0.0	1.0	0.0	0.3	1.0	0.4	0.8	0.0	0.3	0.5
3rd hour	0.5	0.9	0.0	0.4	0.7	0.2	0.5	0.0	0.0	0.1	1.2
4th hour	0.7	0.0	0.6	0.9	0.0	0.0	0.2	1.0	2.6	1.4	0.0
5th hour	0.0	1.3	1.0	0.0	0.7	0.2	1.1	0.0	0.0	0.2	0.4
6th hour	1.6	0.4	0.0	1.3	0.0	1.7	0.3	1.7	0.4	0.4	3.0
Total	2.8	3.2	2.6	2.6	3.7	3.1	2.9	5.0	5.4	5.8	5.1
	Spontaneous secretion				H_2O irrigation			Yeast extract irrigation			

the quantity of the intestinal juice secreted. On the other hand, the control experiments in which pure water or 2 per cent saline solution were used did not show any appreciable increase in the amount of intestinal juice secreted.

The average values of the intestinal secretion were: (1) Normal periodical secretion, 2.9 c.c.; (2) secretion obtained after the irrigation of the intestinal loop with water, 3.2 c.c.; (3) secretion following the irrigation of the intestinal loop with yeast extract, 5.3 c.c.

The saline irrigations of the isolated loop of the small intestine did not affect either the quantity or the mode of secretion and the latter did not differ in any noticeable way from normal spontaneous secretion of the intestinal juice. Saline irrigations were made in order to find whether the salt content (NaCl) of yeast extract had anything to do with the increase of the secretory work of the intestine. It is known that sodium chloride may act as a laxative since it exerts a mild irritating action on the intestinal mucosa. The salt content of the yeast extract solution employed in the experiments under consideration did not exceed 1.5 to 1.7 per cent. In the case of 2 per cent solution negative results were obtained; therefore, it must be concluded that the increase in the amount of the intestinal secretion obtained with yeast extract irrigations was caused by some other ingredient of yeast, and probably could be ascribed to the Vitamin B. It has already been mentioned[5] that the motor response of the small intestine to extracts of yeast is reported to be due to Vitamin B. Recently, Kawamura[12] found that in cases of vitamin deficiency the addition of rice bran extract and Vitamin B to the diet resulted in an increase of the secretion of intestinal juice.

The secretion of intestinal juice occurs periodically and it seems that the action of yeast extract not only augments the amount of secretion per period, but also apparently increases the number of the periods, thus accounting for the considerable increase in the total secretion. The contractions of the ends of the isolated loop of the small intestine during the periods appear to be much more pronounced and of longer duration. Therefore, it may be concluded that the motor activity was also increased. The juice secreted was natural succus entericus.

SUMMARY

The irrigation of the intestine with the extract of brewers' yeast has a marked effect on the secretion of the intestinal juice. The amount of juice secreted is greatly increased. There are also some indications that not only secretory but also motor activity of the bowel is increased.

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SIMPLE NON-SPECIFIC ULCER OF THE COLON

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By simple non-specific ulcer of the colon is meant an ulcerating lesion, not due to a specific organism, tuberculosis, typhoid, or pathology, i.e., stricture or obstruction of the ascending colon. This entity is rare, only fifty-three cases, representing the total number of cases reported in the world's literature which have been collected and very ably presented in a monograph by Maurice Barron, M.D.

The following case is reported because of the age, five years; previous cases reported have been not less than eighteen nor more than eighty years of age. In the case presented here, the focus was probably from a tonsillar infection. The pathology of the bowel is similar in each instance, but the symptomatology is obscure in its onset and is not indicative of the condition present.

This patient was seen in consultation with Dr. M. Goltz and the case history is as follows:

Patient C. D., No. 10630, age 5, sex male, race white.

Family history: Father, mother and brother are living and well.

Chief complaint: On December 29, 1930, in the morning, it was noted that the child was feverish and had a cold, with a hacking cough, and he stated that he did not feel well.

The cough ceased toward evening and has not been present since. The following day, in the morning, he began complaining of his stomach hurting him, i.e., epigastrium, which has been progressive in severity and continuous. There was no vomiting at any time. The bowels have moved by enema daily. Urination was without difficulty.

Past history: Chickenpox, 1929; measles and whooping cough, 1927.

Physical examination showed a boy acutely ill, with flushed face, moving his head from side to side, licking his lips with a continuous grunt, while holding the abdominal wall rigid. Temperature was 102.7; pulse, 136; respiration, 48. Examination of head was normal, except for mucous membrane of mouth and lips, which was dry; the tonsils were large and somewhat reddened. His chest was well developed with excursion of the diaphragm even; palpation, percussion and auscultation showed no abnormality. The heart rate was rapid; no murmurs nor arrhythmia were present. The abdomen was rigid in the hypogastric region, but tenderness was equally distributed over the entire abdominal wall, perhaps greater in lower half. There was some rigidity of the anterior edge of the right rectus muscles. The rectum was empty of fecal content, but the abdominal contents appeared pushed down behind the bladder into the right pelvic quadrant.

A diagnosis of peritonitis with pelvic appendicitis and chronic or subacute tonsilitis was made.

The patient was seen in consultation with Drs. M. Goltz and S. Jackson, who concurred in the diagnosis, and immediate operation was advised.

The laboratory record was as follows: Urine—specific gravity not sufficient quantity; albumen +; acetone; casts granular 4 + with an occasional white cell. The white count was 40,000; neutrophils 92 per cent.

During ether anesthesia a right rectus incision was made with the escape of free gas from the abdomen of fecal odor and ballooning of ilium and cecum, but the ascending colon flaccid and cyanotic; this was followed upward about 4 inches. The bowel, here, was adherent to the right lateral abdominal wall by recent adhesions, with free fluid about one ounce encountered. After packing off and freeing the bowel, a punched-out ulcer, the size of a dime, with perforation, no free fecal content, was seen. The pelvis was normal. The appendix was long with a short meso-appendix, not acutely inflamed, rather partaking of congestion akin to the ileum and cecum. The ulcer was closed by a purse-string suture. The appendix was amputated and a rubber drain down to area of perforation was inserted.

The biopsy report of the appendix follows: "Macroscopic examination shows appendix 5 centimeters long, narrow, and congested. The microscopic examination shows the mucosa intact. The peritoneal surface shows an exudate with moderate round cell infiltration. This indicates a peritonitis with the primary trouble elsewhere."

(Signed) J. M. Lickley.

Subsequent course of the case was a gradual lysis of temperature, with decrease of abdominal tenderness, with removal of the drain on third day. But the child's throat became acutely inflamed, a condition to which we are inclined to believe most of the temperature was due.

No culture was made of the fluid about the perforation, but the tonsillar culture yielded repeated pure streptococci and we are inclined to believe that the ulceration was secondary to the tonsillar infection.

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THE MENTAL HYGIENE MOVEMENT*

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It is the purpose of this paper to offer a few suggestions which I have seen presenting themselves from time to time in regard to the needs of the mental hygiene movement. It is quite remarkable that a part of the program of a State Medical Association should be devoted to the prevention of mental disease. We encounter some difficulties, however, from time to time which, if they might be removed, would make this work more efficient.

It is obvious that our civilization is characterized by movements. These usually come from the laity and demand the attention of the medical profession. Some of these movements are of definite value and others are not. Each passing generation reacts against the generation coming into power, accusing the other of more crime, more immorality, disrespect for the law, drifting away from God, and a general state of degeneracy. During the Colonial days there was an interesting movement against bundling. Among the colonies at one time it was considered to be quite proper for young people to court each other in bed; in fact, fond mothers would many times tuck them in. Whether immorality was more prevalent at that time than now is difficult to state, but the custom went on until someone showed an unusual interest in the moral welfare of the young people. It was necessary for the anti-bundlers to carry on quite a vigorous campaign against this custom and they finally won in their purpose.

At the same time there were the anti-Saccharides, started for the purpose of saving the youth of the country. Sugar had been introduced and its use was accompanied with considerable pleasure. It was in great demand, tasted good, and, therefore, it was wrong and the cause of sin. The propaganda of the anti-Saccharides spread and it was generally agreed that the use of sugar was the cause of immortality, until a scientist in his laboratory discovered that carbohydrates were an important part of our food, and the movement died of acute dilatation of the heart. We continue to have the anti-cigarette movement, attributing much of disease and lawlessness to the use of the so-called "coffin nail," but making no progress because it was not based on scientific facts. One sometimes questions the value of the anti-cancer movement, whether it is the proper thing and whether something of real value is accomplished.

The mental hygiene movement also came from the laity and made its way into every court, making it necessary for the medical profession to give it serious attention. Our part in this movement at the Kalamazoo State Hospital was started in 1916 when mental clinics were established in cities surrounding Kalamazoo and these clinics have now grown to such an extent that it is extremely difficult to take care of all the work. These clinics are not exactly child guidance in nature but include all types of nervous and mental disease.

In order for every movement to be successful, there must be a public demand and also it must be based on scientific facts. The demand for the prevention of mental disease is quite evident. With the crowding of our State institutions to the inability of caring for the insane and the difficulty of curing mental disease, it is necessary to do something along the line of prevention. We will, therefore, concern ourselves more with the question as to whether we have sufficient scientific knowledge to carry on this work.

Let us be honest with ourselves and admit that we are in a new field of preventive medicine, of which, as yet, many of the leading scientific facts are unknown. We might discuss the question of heredity. We are led to believe that it is an important factor in the production of a psychosis, that mental disease is intermittent according to a mendelian recessive. But have we sufficient knowledge to say that some individuals must not marry, or, if they do marry, they must not have children? As yet, we do not know anything definite in regard to the heredity

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of character traits. I wonder whether a child inherits a bad temper from his father or vanity from his grandmother, much the same as he might inherit the color of his eyes or his hair. The law of heredity applies to physical qualities. Character traits and trained patterns are beyond our scientific laws but we delight in the belief of clinging to the inheritance of character traits when we have no other excuse for educational mistakes. One can question the scientific background of a story such as that of Martin Kalikak, who united his germ plasm with a feeble-minded girl and thereby started a long row of degenerates and then reforming, used his germ plasm in a more orthodox fashion and married a nice girl and started a row of good people. We need more scientific facts instead of what appears to be a fictitious story and we must admit that the breeding of human beings is an unknown science; that many times men with great minds produce fools and that fools will produce wise men.

I feel the need of some tangible facts in regard to the influence of environment on the personality of children. I have frequently been consulted by clients as to whether it is better to send their children away to some special school for the correction of some obscure problem or whether it is best for them to keep them in the home where the conduct disorder developed and to treat the condition there. Some writers suggest that it is best for all children to be taken away from their parents, but I cannot help but believe that some parental love is necessary for a normal development.

I am in doubt many times in regard to the relationship between the physical conditions and the conduct disorders of children. In some cases it apparently exists and in others it is absent. This is especially true in regard to the glands of internal secretion. We can render an opinion, but, after all, our people are looking for cures and must have some sort of treatment. This treatment, then, consists in supplying what we think is lacking along the lines of internal secretion, and, as yet, in regard to glandular therapy I must admit I am in doubt. I believe in the work that I am engaged in but if I am honest I will agree that this movement possibly has less scientific facts than any other field of preventive medicine; so much so, that at times we must be carefully guarded against holding out false hopes to those who are expecting from us great things.

The mental hygiene movement must have the support of every physician, not only the specialist, but the general practitioner. The clergy, the social worker and teacher are enthusiastic but the family physician at times is quite skeptical when in reality he is the one who sees and realizes the need of this type of work. Possibly he may be afraid of losing a good customer through a clinic. We can assure him that we will be very happy to refer back many typical cases of psychoneurosis or dementia præcox if he would like to have these people take up valuable time in his office. In order that the general practitioner may take an active interest in his work, let us make an effort to keep the facts of mental disease simple and clear and tangible. It is far more obscure than an organic disease, such as typhoid fever or pneumonia. I have noted that scientific journals are many times filled with complicated articles which only the superintelligent individual can read and understand. I myself do not belong to that group of people and it has been necessary to pass such articles by with regrets.

Our medical schools will do well to call their students' attention to this problem as well as to surgery and medicine. In the course of our work we have planned to establish a course of mental hygiene in a college for teachers. We took the liberty to correspond with medical schools for suggestions in regard to this course. It was interesting to note that in practically each case I was referred to the Social Administration Department of the University. I wonder why this should be. Does it not come in the field of disease or preventive medicine?

The mental hygiene movement is primarily concerned in adjusting the child to his environment. It is extremely pathetic the type of environment or the type of civilization some of our children must be adjusted to. We have no reason to be proud of our present state of civilization. The men engaged in child guidance work must adjust their children to a civilization in which marathon dancing and tree sitting seems to be the popular thing of the day. This civilization is filled with domestic unhappiness, gangsters, murderers, industrial maladjust-

ments, greed and vice, and only twelve years ago we slaughtered millions of the very best of our race. Perhaps our children themselves are not so much at fault as we are ourselves. I have noted that in many cases the trouble is not with the child but with the world into which it has been forced to live.

On one occasion it was said that Freud expressed the opinion that possibly a new Salvation Army will spread through our civilization to re-educate and fight neurotic tendencies brought about by present-day life. Scientific progress is not made by the beating of drums or in street-corner meetings. The mental hygiene movement needs individuals working alone and unseen in the laboratories, collecting accurate scientific data which we can use in our work. In a recent public magazine a writer referred to a remarkable discovery for insanity, namely, malaria. His praise of this form of treatment was quite glowing but he did not refer to the complications or the administration of such a remedy, neither did he point out the danger, but he led many individuals to believe that it is an absolute cure. We are frequently asked why we do not cure dementia præcox by the removal of teeth or tonsils or other points of focal infection. Or, again, why we do not use the somnifeen treatment in cases of manic depressive insanity. Unusual promises and untried theories and cures are not of much value to the mental hygiene movement.

We must guard against the promises of unusual cures. Recently, the statement was made that if twenty years ago we would have applied the knowledge which we have at the present time along the lines of the prevention of mental disease, one-half of our present cases of insanity could have been prevented. I am sure that I do not have sufficient knowledge to prevent at least one-half of all our cases of mental disease. It is a little more difficult and not so easy as the discoverer of the inferiority complex would have us believe. This work must constantly be carried on by individuals who have a large amount of training and who have a definite knowledge in regard to the machine producing the mental problems. We are, then, looking to the laboratory workers in our universities, to the research departments in our schools, to the individuals in child guidance clinics to supply us with information. The mental hygiene movement needs the support of the physicians and it needs research men who can enter into the lives and personalities of children and produce actual laboratory experimental results instead of planning out theories by the fireside. The mental hygiene movement does not need publicity, or propaganda, or public speakers, or conventions, but it does need seriously minded scientific men and women whose intellectual integrity will outweigh the desire for fame or fortune.

THE TRAINING AND EDUCATION OF THE MENTALLY DEFICIENT

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I have nothing new to offer those familiar with the work being done in the Institutions for the mentally deficient, but I am going to try to acquaint those who are at the present time unaware of all that the tax-payers of the State of Michigan are doing in the way of training and educating these children.

When a child is thought to be mentally deficient he is, by the order of the court, examined by two physicians, who give their opinion of his mentality, and if, in the opinion of the court, he is a fit child for admission to an institution, he is adjudged mentally incompetent and ordered admitted to an institution which cares for such children.

The Michigan Home and Training

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School, located at Lapeer, Michigan, is that about which I am directly concerned and about which this article is written.

The present inadequate housing facilities of the Institution necessitate the placing of the names of the mentally deficient children on the waiting list. At the time of this writing there are over 1,375 on the list ordered admitted by the court but awaiting admission. When room can be provided for a child, the court who ordered the admission of said child is notified and the judge may order him taken to the institution.

A Class in Domestic Science

All new admissions are placed in the receiving ward, or department, of the hospital for an average stay of two weeks. If in no way this new child is thought to be detrimental to the health of the other children, he is placed in a cottage housing those children nearest his own mental level. This short period of segregation or seclusion is done principally to avoid contagious and infectious diseases being spread throughout the institution.

Soon after admission the child is given a complete physical examination by a physician and a mental test by a competent psychologist. As soon as can be arranged thereafter, the child is brought before the staff. At such staff meetings there are present: the doctors, psychologists, a social worker, and the principal of our school. At this time the doctor presenting the case gives as complete as possible the present history of the child, his ancestors and other members of the family. The findings of the physicians examining the child at the time of commitment are presented, together with our doctors' physical and our psychologists' mental examinations. In this way the individual condition and the problem of each child is discussed freely before the staff and some decision is reached as to the best way this child can be helped.

All children sent to us are not entirely useless as is the common belief among those not familiar with our work. One classification of feeblemindedness is to separate them into idiots, imbeciles, and morons, with an I. Q. up to 25; from 25 to 50; from 50 to 70 or 75 respectively. Feeblemindedness may include those who, from their examination, show a mentality below test to those of the high moron level. Some authorities believe that some individuals even with a higher I. Q. are feebleminded if they are unable to compete with their fellow-men and adjust themselves to society.

The I. Q., or intelligence quotient, is obtained by dividing the mental age by the life age. This is to say that if a boy is actually 12 years and 6 months of age (150 months) and has a mental age of 7 years 6 months (90 months) we divide 90 by 150 which gives us .60. Taking 100 as the normal,

this child measures only up to 60 per cent of what we might expect of the normal child. Authorities are quite well agreed that mental development has reached its capacity, in the normal at least, at 16 years of age. Hence in figuring the I. Q. one never takes the life age for the divisor beyond 16, even though in reality the individual may be much older. Every feebleminded child, upon examination, with whom it is possible to obtain an I. Q. can be taught to do something. It is true that all feebleminded children are not capable of learning and being educated to the same degree. The mentally deficient child is capable of doing everything the normal child can do who is of the life

The Toy Symphony

The Sailor Boys of the Christmas Play Cast

The Girls' Gymnasium

age equal to the mental age of the subnormal child.

We know that boys of 5 year mentalities are capable of doing:

Sand papering
Brush making
Cutting rags
Sewing rags

of 6 year mentalities; all the preceding and:

Sorting and tying of bristles
Practice painting
Cutting yarn to equal length
Making coir brush mats
Rug weaving

of 7 year mentalities; all the preceding and:

Cane seating
Painting boxes, blocks, chairs, etc.
Weaving towels and napkins
Begin shoe repairing
Learns use of tools

of 8 year mentalities; all the preceding and:

Painting furniture and out-door painting
Coir braid rugs
Shoe repairing
Making boxes, bread boards, coat trees, bird houses, etc.
Begin broom making

Those over 8 year mentalities; all the preceding and:

Furniture repairing
Inside painting
Varnishing

Boys of 10 and 11 year mentalities may be taught to set type.

The girls of 4 and 5 year mentalities are capable of:

Cutting rags
Sewing rags
Bandage winding
Begin plain sewing

of 6 year mentalities; all the preceding and:

Plain sewing
Knitting, plain
Plain crocheting
Net making
Toy making (stuffing)
Cutting pictures for scrap book
Rug weaving

of 7 year mentalities; all the preceding and:

Napkin and towel weaving
Scarf weaving
Scrap books
Bead stringing
Crocheting
Plain sewing
Start learning sewing machine
Braid rags for rugs
Begin embroidery

of 8 and 9 year mentalities; all the preceding and:

Lace making
Basketry and reed work
Jig saw puzzles
Design weaving
Braided rugs
Embroidery
Power machines
Machine knitting
Domestic science

Given an individual who comes before the staff, his family history, personal history, past and present, committing physicians' statements, his general behavior before admission, including school and school progress, our doctors' physical examination, our psychologists' mental examination, and a report of his general behavior since admission to the institution—this taken with the results of the questioning of the child before the Staff often reveals a great deal which is useful knowledge in working out a plan for his future welfare. After a round table discussion of the whole condition, a recommendation is made so that the child's time may be occupied to his best advantage and that he may be developed and educated to the limit of his capabilities.

The personnel of the school consists of a corps of twenty-one teachers. The school is divided into two parts, academic and industrial.

Given a child with a certain I. Q. or mental age, and taking into consideration his general behavior and reactions under certain conditions and outlook upon life in general, we assume that we have a working basis at least upon which we can plan for his future development.

The mentality of a child and mental development must not be confused with knowledge, training, and experience. A child's mental age shows us what he is capable of doing if he be given the opportunity of learning and training under competent teachers. Degrees of mentality may be likened to a large and small sponge which will soak up just a certain amount of water. Obviously a large sponge will absorb more water than a small one. Just so with a child of a higher mental age or I. Q.: he is capable of absorbing more knowledge than one with a lower mental age. Mentality is

the capacity and it is our job to train and teach to capacity.

If the child is one who will profit by attending academic classes, he is so placed.

A Class in Reading

Our academic school teaches such as is taught in any good public school, from the kindergarten to and including the sixth grade. In addition to this, those not capable of starting in the kindergarten and not too old to be embarrassed or a hindrance to others, may be started in the sense training. Here the child is taught to know the sense of taste, smell, touch, etc., and to associate each with the other.

If a boy has reached his capacity in academic work and is of the manual type and is capable of learning, he is placed in the Industrial school. Here the child is taught good work habits. For the boys we have: (a) the rug room, where he is taught the use of the hand loom in making rugs, toweling, and table runners. (b) The brush and broom, where he is taught the art of making good useful brooms and brushes of all shapes and sizes. Chair caning is also taught in this department. (c) The basketry department. Here is taught hooked rug making to the younger boys and to the girls regardless of age, as well as basket making. (d) The toy shop provides a place where each suitable boy spends about 1½ hours a day, learning to use tools in making toys.

The Fancy Work department is where the child learns hand lace making, embroidering, and hemming of towels for Institutional use.

Each suitable child spends a portion of her time each school day at dancing, vocal and instrumental instruction, and gym work. Both the boys and the girls have an orchestra of their own, and the Institution has a band composed entirely of boys.

The Domestic Science department of the Institution is attended by the girls who, in our opinion, are going to make good on parole and ultimately be discharged.

The Sewing room under the school department provides a place where the more capable girls are taught to make dresses and different articles of wearing apparel.

In addition to these different departments that are directly under the management of the school, the Institution provides various means of employment in which the child receives constructive and useful knowledge which is beneficial to him toward gaining his parole. Such places are the laundry, carpenter shop, power sewing machine room, mending room, cottage, dining room, kitchen, horse barn, dairy barn, and the

farm. The children in these various places do practically all the work but, of course, under the supervision of paid employees.

What subnormal boy or girl, who possesses the qualifications or general make-up of the future parole child, is not happier in an Institution than outside trying to compete with normal children? They all are happier here. It is the delinquent child who is a misfit anywhere he is placed. He is the problem in society and is just as much of an institutional case as is the feebleminded of the lowest mental level. Isn't it true that there is a grand and glorious feeling which comes to the normal child when he learns to do something well which heretofore he has been unable to accomplish? Just so with the deficient child. Teach him to do something and he is proud. He is full of ambition and perseverance to perfect it when competing with those of his own mental level, but easily discouraged if left far behind by his classmates. In the institution he is a leader with the other children close to his heels for class honors, which would be far from the situation in a public school.

The laundry teaches the girls hand ironing as well as the different processes through which the clothing passes in any well organized steam laundry.

The carpenter shop is where the boys can learn to use tools, form good work habits, and make many useful articles which are used in the Institution.

The power sewing machine room produces many articles of wearing apparel for the children.

Class of Power Sewing Machine Operators

In the mending room the girls learn to mend and at the same time salvage a great deal of clothing which would otherwise be done only at a great expense to the state.

In the cottage there is general cleaning and scrubbing, which every good housekeeper should know how to do well.

Every girl, who is considered for a parole to a home, must know how to serve well at the table. Our so-called center dining room provides an excellent place for such training. There are about 200 employees eating three meals a day in this particular dining room and the girls of the Institution wait table. They are given instructions and taught to serve well. It is a very good training for the child and a great saving of expense to the Institution.

The kitchen serves to instruct in the care of general equipment, its uses, as well as in the preparation of meals.

In the horse barn the boy receives instruction in the care of the horses and teaming. The dairy farm, poultry, and the farm in general is very important, both from the

standpoint of the child and his welfare and also to the Institution in saving hired labor. It is here that the boy usually gets training which ultimately places him in a job with

Class in Table Service

Class in Toy Making

some farmer who is glad to pay five to eight dollars a week for his services.

In our dairy barn the boy is taught the care of the cattle, milking, and preparing the milk for distribution to the different parts of the Institution.

He is also given opportunity to learn something of the care of poultry and swine.

During all this time when the children are studying and working, the Institution has not lost sight of the fact that athletics are an important part of the child's training to make and keep him physically fit.

It has been the custom of the Institution to appoint a play ground director for the boys and one for the girls for a period from July 1 to September 15. Each director, with his assistant, works eight hours a day with the children on the play ground; if inclement weather, games are played indoors. A baseball league is formed within the Institution and games are played three days a week and a cup is awarded the winning team at the end of the season. The boys are coached in the usual track sports found in most any boys' school, as well as organized

play for different games. Every girl, who is physically able to participate, is given instruction and an opportunity to take part in organized play.

The Institution has a troop of boy scouts of which it is justly proud. The troop has its own scout master and enjoys the usual training and instruction given to scouts together with its annual trip to camp each summer.

The school children each year are coached for the May festival which is put on, to the great enjoyment of the 2,500 spectators.

Picnics are enjoyed throughout the summer season.

There are a number of classes from different schools and colleges who make their annual visit to the Institution, at which time the children put on a program consisting of singing, dancing, vocal and instrumental numbers.

Movies are provided for the children once a week, birthday parties once a month for 6 months, thus combining the birthdays of the children during two successive months to one party, and brother and sister parties every week, at which time those of the immediate family have an opportunity to see each other and visit. Divine services for Catholic and non-Catholic children are held weekly.

The season of the school and its vacation are similar to any well organized school, and deserving children with good homes are allowed to spend their vacation with relatives.

Every Christmas the school children put on a play coached by the teachers. This past year the play was exceptionally good and the children and teachers have every reason to be proud of themselves for putting on such an excellent entertainment.

The state does a great deal for the mentally deficient child but there is no state entertainment fund upon which to draw to give these children other and more entertainment than provided by the state's money. Some years ago there was formed an Entertainment Fund by donations from those interested in these children and from time to time checks come in to be applied to this fund. The different groups visiting the Institution from different schools and colleges have always been very generous in their donations to help make the life of these children a little more cheerful.

When a child, either boy or girl, has completed his education and training, the Social Service Department tries to place him at day work in town close to the Institution for a while. If successful and adjusts himself well, he is allowed to remain away on the job by the week. He is then given a job in a town farther away from the Institution. This is not always possible and the child may be sent to some distant town without the preliminary trial nearer home. The boys usually find work on farms and the girls in the homes as domestics. These two classes of work go to make up the bulk of the jobs found for our children because they seem better fitted and adjust more readily to society.

Before any child is placed in any home or on any job, a thorough investigation is made by the Social Service Department and, if satisfactory, the child is allowed to go to work at a specified wage. The child is clothed by the employer and is allowed from 50 cents to 1 dollar for spending money and the remainder of his weekly wage is sent to the Institution, where record is made in the office and the money placed in the bank. A record is kept of each individual child's savings, but all the children's savings are banked in one fund, known as the Children's Fund. There has been saved by our parole children up to the present writing nearly 70,000 dollars. During the time the child in on parole, he is under the supervision of the Social Service Department where field workers make visits frequently and keep in touch with the child, employer, and home. When the child is thought to be well adjusted and apparently self-supporting, the Superintendent may discharge him. If this is done and the child does not need the guiding hand of the Institution longer, he is given his savings and takes his place in society, where he often becomes a useful citizen. Of course, there are failures and all the children tried on parole are not always discharged as being well adjusted. These cases are either tried at another job or returned to the Institution for further training, depending upon the reason for failure to adjust to society.

I would like to impress my readers, (1) that the child comes to us with certain capabilities; a capacity for learning: a certain mental age in which he will remain stationary after 16 years chronologically, with

perhaps a slight change up to 20 years of age. We can train and educate the child up to his mental age but cannot, of course, take a child of very low mentality and hope to train and educate him beyond what his mental age indicates as a possibility. (2) That the good mentally deficient child is happier in the Institution with less competition, with more patient and persistent teaching by those with a more sympathetic understanding for these children than can possibly be given by the public schools teaching normal children. (3) That subnormal children as a rule are good, kind children; the defective delinquent is in a minority in an Institution of this sort. (4) That nearly all the mentally deficient children of the moron level and good physical condition can be trained and educated to such an extent that they take their place in the community, where they become good, useful citizens to society. (5) That all the high grade children are sensitive to their handicap and appreciate a guiding hand: help them.

INTRACRANIAL BIRTH INJURIES—INCIDENCE, SEQUELÆ AND TREATMENT*

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Attributed to intracranial birth injuries are all types of congenital paralyses, athetosis, epilepsy, amentia, idiocy, hydrocephalus, speech defects, etc. However, it must be remembered that causes other than birth trauma are responsible for a large part of the conditions just mentioned, but this must not permit us to minimize the importance of intracranial birth injuries as a factor in producing such conditions.

STATISTICAL DATA

The significance of birth injury can best be impressed upon our minds by such figures as those by Weyhe, who, in 1888, published the autopsy findings in 959 still-born babies in which he found 122 cases of intracranial hemorrhage; Spencer, in 1892, reported 40 per cent of his cases as having an intracranial hemorrhage. Schott (1920) found it in 30 per cent; Deluca (1921) in 36 per cent; Schafer (1921) in 20 per cent in 680 cases; Archibald (1909) in 43 per cent; Warwick (1919-1921) 43 per cent; Pierson (1923) 44 per cent; and Crothers (1923) in 65 per cent. In breech presentations and prematurity even higher percentages prevail. Ylppö (1922) reports an injury of greater or less severity in 90 per cent of premature infants. Holt and Howland (1919) in their text-book state that one-third of the deaths at birth or within the first few days of life are due to complications of labor. The above data are from autopsies on still-born and premature infants. According to Cruveilhier at least one-third of the deaths which occur during parturition are due to meningeal hemorrhage.

INTRACRANIAL HEMORRHAGE WITHOUT SIGNS

In the babies which survive, some may have intracranial hemorrhage and show no signs of it. Weyhe, Dowhle (1890) and Kundrat (1890) have found old blood pigment in children up to the ninth month who gave no evidence of intracranial hemorrhage at birth. Recently Sharpe has published the results of routine lumbar puncture on 500 new-born babies. The fluid was removed usually within the first 24 hours and 9 per cent of all new-born babies had bloody fluid. Hines and Roberts (1923) in routine lumbar puncture on 423 colored babies found blood in the spinal fluid in 60, or 14 per cent, and yet only 26 showed clinical signs of cerebral lesions and 12 died. We note, therefore, that a very large percentage of babies dying at birth, or early thereafter, show intracranial hemorrhage and many who are normal have blood in their cerebrospinal fluid.

LOCATION OF HEMORRHAGES

In Weyhe's 122 cases he found subdural bleeding in 80; subarachnoid in 56; intra-

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cerebral in 35; and intraventricular in 21. McNutt (1885) found hemorrhages over the convexity of the brain in 8; and the hemorrhage at the base in 2. Spencer reported bilateral hemorrhage on the convexity in 29 and unilateral in 20 cases. In 35 cases the hemorrhages were at the base and 7 times in the ventricles, and one in the brain substance. Warwick's cases showed bleeding over the convexity in 13, bilateral in 7, unilateral in 6, into the dura in 2, over the cerebellum in 1, and ventricles in 2. In two cases of meningeal hemorrhage there was softening under the clot. The general opinion is that when the bleeding is over the cerebral cortex it is usually limited to one side. Cushing, in an article in the American Medical Science Journal in 1905, states that all of the extensive hemorrhages seen by him were limited to one hemisphere and he concludes that the unilateral is the more common.

Beneke (1910) emphasizes the frequency of hemorrhages at the base and in the posterior fossa, and Sietz (1912) has claimed that the bleeding is at the base in 50 per cent of all cases. Because of the close adherence of the dura to the skull in infants extradural bleeding is always associated with a fractured skull and it is usually complicated by lacerations of the brain. Hemorrhages into the retina have been observed by Stumpf and Sicherer, Paul, Jacobs and others in from 20 to 50 per cent of all new-born babies.

SOURCES OF BLEEDING

Bleeding may be from: (1) torn vessels of the cerebellar tentorium, in which case the blood collects upon the surface of the cerebellum, or if on the upper surface it may drain around the occipital lobes.

(2) The Great Vein of Galen may rupture at its junction with the straight sinus, when the blood will collect about the dorsal surface of the mid-brain and flow downwards around and beneath the cerebellum, pons and medulla.

(3) The cerebral veins may give way at their entrance into the superior longitudinal sinus and the blood will flow into the subdural space on one or both sides.

(4) The superior longitudinal, transverse and straight sinuses may give way. Tears of these sinuses usually result in death but not always immediately after birth.

(5) Hemorrhage of the choroidal veins may take place in the ventricles.

(6) Rarely intracortical hemorrhages may occur.

PATHOLOGICAL RESULTS OF INTRACRANIAL HEMORRHAGE

The effects of the hemorrhage upon the brain structures are determined by the location and size of the lesion. Because of the fact that the infracortical vessels do not anastomose, an intracerebral hemorrhage results in necrosis of the hemorrhagic area. Schwartz (1924) called attention to the frequency of the intracerebral hemorrhages and necrotic areas in children who die within the first six months of life. These lesions occur as petechial hemorrhages and minute necrotic areas in the central white matter and basal ganglia about the third and lateral ventricles. It is in these areas that the veins which are tributary to the vein of Galen, the lateral ventricular, choroidal veins, and the ventricular branch of the basilar vein are found. Rupture of these veins with the consequent hemorrhage results in extensive destructive lesions. Meningeal hemorrhages may result in cortical softening. Often the lesions are so small that only by the use of the microscope can they be demonstrated. The above pathological conditions occur early in the life of the child. As time elapses the supracortical hemorrhages undergo absorption and organized scar tissue results with or without cysts and this becomes permanent. Sachs feels that chronic meningo-encephalitis, sclerosis, cysts and partial atrophies are the late results of meningeal hemorrhages and Holt and Howland feel essentially the same way about it.

Subdural hemorrhages frequently form cysts, and often when the hemorrhage is completely absorbed there remain collections of fluid between the sulci. The pia-arachnoid may become opaque and thickened. This is a common surgical observation of the brains of epileptics and diplegics. Cortical defects and scars have been observed, and such authorities as Cushing, Tredgold, and Campbell ascribe them to hemorrhage from birth trauma.

Localized adhesions of the pia-arachnoid to an atrophic cortex have been definitely identified as due to birth injuries, and resulted in hemiplegia with epilepsy. Cushing describes and illustrates in one of his articles a small defect in one lobule which caused paralysis of one leg and claims it is from a birth injury.

Other lesions occurring are: a ventricular hemorrhage which may obstruct the ventricular system and cause an internal hydrocephalus, and a meningeal or supracortical hemorrhage which may obstruct the flow of cerebrospinal fluid from the subarachnoid space into the superior longitudinal sinus and produce an external hydrocephalus. "Hemorrhagic pachymeningitis" of infancy may be due to birth injury. Localized arachnoiditis may occur. Porencephaly of a bilateral type is ascribed to periventricular hemorrhage of infancy, and a cortical type due to superficial hemorrhage occurs.

MECHANICAL FACTORS INVOLVED IN PRODUCING HEMORRHAGE

We need merely mention the mechanical factors involved. (1) The most common cause of intracranial hemorrhage is due to over-riding of the parietal bones and tearing of the veins to the longitudinal sinus. (2) In breech extraction an overlapping of the parietal bones over the occipital may result in a tear of the lateral sinus and tentorial veins. (3) Dural tears may result from excessive molding. The oblique head is thought to be due to a tentorial tear.

CLINICAL EVIDENCE OF INTRACRANIAL HEMORRHAGE

Clinical signs of intracranial hemorrhage may be classified as *early signs* which occur at the time of delivery and *late signs* which occur several days, weeks, or even several months or years afterwards.

EARLY CLINICAL SIGNS

An extensive hemorrhage may result in the delivery of a dead baby; if alive, it may be deeply asphyxiated and difficult to resuscitate. The "blue" asphyxia occurs in about 90 per cent of all new-born babies and is not serious but the "pallid" asphyxia of intracranial hemorrhage is a serious condition because it is due to a vasomotor paralysis from injury to the medulla. If the child survives the pallid asphyxia it remains sluggish, languid and unresponsive, or occasionally it may be very restless. It has a feeble cry and does not nurse. Its respirations are slow, irregular, and some cyanosis may be seen. The pulse is feeble and rapid. In case of supracortical hemorrhage there may be localized muscle twitchings or even general convulsions. The child may be rigid with a retracted head. The pupils may be unequal; even nystagmus, strabismus or exophthalmos may occur. Retinal changes with blurring of the nasal side of the discs may occur, retinal hemorrhage may be present. The fontanelles may bulge. Lumbar puncture reveals the cerebrospinal fluid under pressure and bloody.

With a picture such as this the diagnosis is rather easily made. But it is to be remembered that only about one case of intracranial hemorrhage in forty-five can be diagnosed within the first few days of life without a lumbar puncture. Roberts reports the recognition of clinical signs in birth injury in only 14 of 48 children which survived. Dr. Manton reports the death of a child due to a large hemorrhage from a torn longitudinal sinus at the time of birth, and Scheele reports the sudden death of one in the sixth week from a hemorrhage from a tear of the tentorium at the time of birth. It is to be remembered that these same signs may occur from cerebral edema, concussion or congestion. In cases in which no blood is found in the fluid a spinal manometric reading should be done in order to determine the degree of intracranial pressure.

LATE CRANIAL SIGNS

Ever since the publication of Little's article in the Transactions of the Obstetrical Society of London in 1862 such conditions as spastic diplegias, hemiplegias, paraplegias, monoplegias, congenital athetosis, epilepsy, idiocy, hydrocephalus and other conditions have been attributed to intracranial birth injuries. *Cerebral diplegia* which is designated as "Little's Disease" is considered the most typical example of the late results of intracranial birth injury and is one of the most common results. It affects the legs more often than the arms or legs alone. It is sometimes associated with bulbar palsy and muscular rigidity.

Hemiplegia either single or double may occur. The arms are more often involved than the legs. In the diplegia the hemorrhage may be supracortical from a hemorrhage either from the superior longitudinal sinus or its contributory veins, whereas if the arms are involved the hemorrhage may be near the base of the cerebrum or along the Sylvian fissure and lower pre-Rolandic area. While diplegias and other spasticities result from other causes than intracranial hemorrhage yet when this is combined with retardation in walking and mental development,

the presumption is in favor of a birth injury.

In hemiplegias and monoplegias the percentage of abnormal deliveries in some cases is as high as 70%. The heads are of normal size or enlarged, whereas in diplegias about 25% are microcephalic, so we feel that intracranial hemorrhage is more apt to be responsible for hemiplegia or monoplegia than it is for diplegia.

Another late result of birth injury is *hemorrhagic pachymeningitis.* These cases may make a complete recovery but it is interesting to note that many who are idiots, imbeciles, neurotic, stutter, wet the bed, etc., have suffered from this condition.

Hydrocephalus of both an internal and external type may result from intracranial hemorrhage. An intraventricular hemorrhage may obstruct the interventricular foramina or aqueduct, or a hemorrhage in the cisterna may obstruct the foramina from the fourth ventricle and produce an internal hydrocephalus, whereas a supracortical hemorrhage may impair the absorption of cerebrospinal fluid through the villi of the superior longitudinal sinus and produce an external hydrocephalus. In these cases the skulls may be of normal size at birth and gradually increase in size afterwards. Large fontanelles, wide sutures, and thin bones at birth are presumptive signs of hydrocephalus, but no change in the skull diameters may be noted for 2 or 3 months after birth. Associated with hydrocephalus one may observe lethargy, vomiting, convulsions, spasticity, defective mental development, etc.

Epilepsy goes hand in hand with infantile cerebral palsies. Holt and Howland observed that 33 to 50 per cent of these cases have epilepsy. Osler observed 35 cases of epilepsy in 120 cases of hemiplegia. Spratling claims that 40 per cent of infantile hemiplegics develop epilepsy, and that 11 per cent of 1,070 cases of epilepsy studied by him were due to infantile palsies. In other words about 3 per cent of all cases of epilepsy are related to birth injury. Mental defects may be due to birth injury but probably not more than 1.5 per cent of idiots are a result of birth injury although Potts ascribes 12 per cent in a series of 5,430 cases as being due to birth injuries. Beach and Shuttleworth estimate that 17.5 per cent of idiots result from such injuries.

EXPERIMENTAL RESULTS OF THE EFFECTS OF FREE BLOOD IN THE CEREBROSPINAL FLUID

Experimental work, especially by Bagley, indicates that small amounts of an animal's own blood injected either into the ventricles or subarachnoid space may produce permanent damage to the brain. The gross changes are enlargement of the ventricular cavities, and microscopically scar formation occurs in the cortex. Clinically the effects are recognized by muscular twitchings, convulsions, lethargy, loss of mental power, etc. He has shown further that if drainage is instituted and the blood is withdrawn with the cerebrospinal fluid, these changes do not occur. He maintains that the reason that the blood in the cerebrospinal fluid in brain operations does not do any damage is due to the fact that the dura is left open and it drains away. He has observed that in skull fractures with a lacerated dura the permanent effects of the hemorrhage are less damaging than when they occur with the dura intact.

TREATMENT OF INTRACRANIAL BIRTH INJURIES

The treatment for the conditions giving rise to (1) the *early signs* and (2) the *late results* of intracranial birth injury varies as do the conditions which produce the difference between the early and late signs.

Whether the obstetrician approves of doing a lumbar puncture as a routine measure in all new-born babies or not, yet it is essential to watch very closely for any sign of intracranial injury, remembering that sudden molding of the head in easy or precipitate births is just as apt to result in cerebral hemorrhage as are prolonged difficult labors.

CEREBROSPINAL FLUID PRESSURE IN INFANTS AND LUMBAR DRAINAGE

Having been led to suspect an intracranial hemorrhage, the baby's eye-grounds should be examined for evidence of retinal hemorrhage or obscuration of the discs. The next step is to determine by measurement with a spinal manometer the amount of intracranial pressure which exists. The normal for new-born babies as determined by various investigators is between 6 and 2 mm. of mercury. Some place it between 5 and 2 mm. In addition to determining the pressure (and let me emphasize that it should be measured

and not estimated—an estimate is of no value at all) the spinal puncture also gives evidence of the presence or absence of blood and the puncture serves as a means of decompression. Munro reports a case in which the baby had a pressure of 50 mm. of mercury and it required the withdrawal of 90 c.c. of bloody fluid to bring the pressure within normal limits. He has also observed that in babies who are treated in this way, of those who were discharged with a spinal fluid pressure of more than 6 mm. of mercury, 37.5 per cent died from all causes and 25 per cent from cerebral causes, whereas of those who had a pressure within normal limits only 11.4 per cent died from all causes and 5.8 per cent from cerebral causes. He also reminds us that increased cerebrospinal fluid pressure is present in all cases of depressed fracture, intracranial hemorrhage, cerebral edema, or cerebral congestion, and that intracranial hypertension in the newborn can be reduced to normal by lumbar puncture regardless of the degree.

REMOVAL OF BLOOD BY LUMBAR DRAINAGE

But, in addition to reducing the pressure to normal in order to avert or relieve immediate symptoms and avoid an early death, it is also necessary to free the cerebrospinal fluid from blood in order to prevent permanent damage to the brain and avoid the late results of intracranial birth injury. This may be and is often accomplished by lumbar drainage. The punctures should be done once, twice or even three times in twenty-four hours for the first or second day, then once in twenty-four hours for the next two or three days and then every other day until a week elapses or until the pressure is normal and the fluid is free from blood.

SUB-TEMPORAL DECOMPRESSION

In the event the hemorrhage is massive and a localized clot occurs and it can be localized a craniotomy should be done and the clot removed. If there is evidence that the blood cannot be removed by lumbar drainage and the hemorrhage is on the convexity of the brain a subtemporal decompression should be done and on both sides if necessary. If the hemorrhage is at the base a soft rubber drain may be inserted beneath the brain for the first twenty-four hours. These measures—lumbar drainage and subtemporal decompression—are valuable during the first few days of life and will often remove the early signs of intracranial damage.

HYDROCEPHALUS

One of the earliest complications of a permanent nature to occur is hydrocephalus, either internal or external. If blood has been found early or if blood-tinged yellowish fluid is obtained after the child's head begins to show enlargement the presumption is that an external hydrocephalus is present. The best treatment, in our judgment, for *external hydrocephalus* is a subtemporal decompression in which the dura is freely incised and a tunnel made beneath the arch of the zygoma into the pterygoid fossa where the pterygoid plexus of veins is located. The fluid can then drain into this area of absorption and thus relieve the condition. In our small series of cases it has given excellent results.

The treatment for *internal hydrocephalus* is a whole subject in itself. Treatises without number appear in the literature and we shall not attempt to review them here.

Internal hydrocephalus may result from blocking of one foramen of Monro producing a unilateral condition, or both foramina may become occluded resulting in a bilateral hydrocephalus of the lateral ventricles; occlusion of the third ventricle would produce the same effect. Obstruction of the aqueduct of Sylvius results in increased pressure in the third and lateral ventricles, and the obstruction of the exit from the fourth ventricle results in an accumulation of fluid in all of the ventricles.

An accurate location of the point of obstruction can only be made by means of a ventriculogram but one can often determine by clinical signs whether the condition is limited to the cerebral ventricles or not.

In all of our cases the hyprocephalus has been limited to the cerebral ventricles and our method of treatment consists in a modification of the old Mikulicz method. We open the skull over the posterior horn of the lateral ventricle and insert a small silver tube, with perforations in its walls, into the most dependent portion of the ventricle. The tube is made into a "T" by splitting the ends of it for about one-half an inch in order that it may be anchored beneath the pericranium in such a way that the escaping fluid enters the subaponeurotic space, from which it is absorbed. The tube is inserted through the cortex of the posterior silent area so it

does not impair brain function and in two cases autopsied, eight and ten months after operation, no evidence of irritation was seen due to the presence of the tubes. The results have been all that one could hope for. Within eight weeks one of our cases which had spastic paralysis of all four limbs, trunk and neck had all signs of paralysis disappear. The child began to sit up in bed, its intelligence developed rapidly, it gained in weight and the circumference of the head decreased from 26 inches to 13½ inches during this period. It then developed pneumonia and died. We have had similar improvement in other cases but none of the others were as severe as this one. If the block is at the exit of the fourth ventricle and is due to a clot or recent scar, a suboccipital exploration is indicated.

PROPOSED OPERATION FOR INTERNAL HYDROCEPHALUS

We have done some experimental work on monkeys with the idea of applying the results in the treatment of internal hydrocephalus which is due to a block in the posterior end of the third ventricle, the aqueduct or fourth ventricle. In three monkeys we bisected the cerebellum and roof of the aqueduct up into the third ventricle. From our knowledge of the anatomy and function of the structures bisected we did not anticipate that any functional disturbance would result and we were completely justified in our expectations. At no time did the behavior or reactions of the monkeys thus operated upon differ from the controls.

We propose therefore for internal hydrocephalus due to atresia of the aqueduct, from whatever cause, to bisect the cerebellum in the midsagittal plane and extend the incision in the midline through the whole extent of the aqueduct with the idea of establishing a permanent gutter from the third ventricle to the lower end of the fourth. The continuous flow of cerebrospinal fluid prevents complete union of the bisected parts. Incidentally in doing the above operation on a dog the knife slipped and bisected the medulla through the floor of the fourth ventricle with only a momentary disturbance of the dog's vital processes.

TREATMENT OF SPASTICITIES AND EPILEPSY

The treatment of the late results of intracranial birth injury forms one of the saddest chapters of surgery. The spastic paralyses have been treated symptomatically by muscle and tendon cutting, tendon transplanting, nerve section, and by attacks upon the sympathetic ganglia. A description of the Stoffel and Forester operations can be found in textbooks of orthopedic surgery. Hunter and Royal of Australia gave quite an impetus to the use of sympathetic nerve surgery in these cases but the results have been disappointing and afford only temporary relief.

During the past twelve months we have had seven cases of spastic paralysis and one case of diplegia with and without epilepsy in which we have removed both superior cervical sympathetic ganglia and injected the sheaths of all of the carotid arteries with 95 per cent ethyl alcohol. All of our monoplegias and hemiplegias cleared up completely and our one case of double diplegia operated only two months ago shows marked improvement, especially in the upper extremities. We ascribe our results to an increased flow of blood through the cortex due to a lessened spasticity of the cerebral arteries. Penfield and others have observed that the blood vessels in the vicinity of cortical scars are exceedingly sensitive to stimulation and readily go into a spasm.

THE OPERATION

In cases of epilepsy due to trauma an old scar from cerebral hemorrhage is often found. The treatment by craniotomy and excision of the scarred cortex by well trained neuro-surgeons has given relief in approximately fifty per cent of cases. However, functional disturbances result from the removal of the excised tissue. The cavity which remains does not close by scar formation but becomes filled with fluid and so persists.

By doing a double superior cervical sympathetic ganglionectomy in combination with a periarterial injection of the carotid arteries with alcohol we have been able to relieve, for a few months at least, more than eighty per cent of the cases of epilepsy due to trauma or intracranial birth injury. We are optimistic enough to believe that the results will be permament and especially so when the vertebral arteries are injected and the vertebral sympathetic nerves from the stellate ganglia are sectioned.

SUMMARY

To relieve the early signs of intracranial hemorrhage drainage by lumbar puncture

should be done early in order to lower the intracranial pressure and free the cerebrospinal fluid from blood. If this fails a craniotomy should be done to drain away the bloody cerebrospinal fluid and prevent the attending complications.

To relieve the permanent damage due to intracranial hemorrhage it is recommended that: (1) For external hydrocephalus a subtemporal decompression should be done; (2) for internal hydrocephalus a modified Mikulicz drainage should be done or a bisection of the cerebellum and roof of the aqueduct; (3) for the spasticities and epilepsy a double superior cervical sympathetic ganglionectomy should be done with an alcoholic injection of all of the carotid arteries to be followed later by a double vertebral alcoholic aphæresis and section of the vertebral sympathetic nerves.

CONCLUSION

In conclusion permit us to express the hope that we have shown that there is some hope of relief for these hopeless cases and that their greatest hope lies in the early recognition of the condition and that some hope, though more remote, is offered by neuro-surgical methods. As Holt says in closing the chapter on this subject in his book on the Diseases of Infancy and Childhood, "the hopeless outlook for such cases when not relieved justifies the taking of great risks."

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KIDNEY INFECTIONS IN PREGNANCY

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Infections of the kidney in pregnancy are directly due to the gravid state; however, preexisting conditions often contribute to produce the urological alterations typical of pregnancy.

Determination of previously existing renal pathology must be made from the history and from a careful urological examination of the patient. Exacerbation of such a latent condition may be expected during pregnancy, because factors arising from this state are superimposed upon the original urological condition. The treatment depends on accurate diagnosis and evaluation of all factors.

Occurrence of true pyelitis of pregnancy, as well as exacerbation of kidney disease existing prior to the pregnancy, is always more frequent in multiparæ, worst at the twentieth week of pregnancy, most often on the right side, and rarely bilateral, for very definite reasons.

While the cause is definitely bacterial, the etiology is urinostatic. Intestinal stasis predisposes to colon bacillus infections; but the vesico-ureteral stasis constantly occurring in pregnancy is directly responsible. The renal intrapelvic pressure is normally 60 mg. of mercury, whereas the normal intravesical pressure is twice that, and in pregnancy many times greater. With this ureteral and bladder change, the back pressure is markedly increased.

Typical trigonal elevation with hypertrophy of Mercier's bar and elongation of the interureteric ridge, changing the location of the orifices laterally, always occurs in pregnancy with the constant finding of residual urine and bladder stagnation. The residual urine is usually infected and contains colon bacilli or staphylococci or both.

The ureteral alterations in the orifices may result in an incompetence of the ostial valves. Hyperplasia of the fibroblastic bundles is normally found and sometimes makes the thickness of the ureter sheath greater than the caliber of the ureter itself. There is always a hypertrophy of the juxtavesical ureter and dilatation at the level of the parametrium. From the normal engorgement of the pelvic blood vessels and angulation of the right ureter from the dextrarotation of the gravid uterus, with corresponding straightening and stretching of the left ureter, there results a disturbed peristalsis of the ureter and ureterectasis.

In the bladder, in pregnancy, the urinary

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stasis plus infection; the ureteral dilatation and often ostial incompetence; the diminished expulsive tone and extraureteral tension and pressure; with vascular engorgement—results in infection of the renal pelvis.

The increased bile salt content of the blood during pregnancy may be a constitutional factor in lowering the surface tension and reducing the ureteral peristalsis by depression of its tone. Experimentally, sodium-glycocholate has been proven to have this effect.

Diagnosis of renal infections is often delayed or not made at all. Fever, fluctuating; atypical gastric disturbances; lumbar pain and its transmission down the course of the ureter; and pus in the urine with symptoms of cystitis—are quite typical. Routine examinations of the urine of pregnant women with unexplained fever, with or without urinary disturbances, is enough to cause the suspicion of pyelitis of pregnancy.

Pyelograms made in kidney infections in pregnancy show three degrees of change in the kidney and ureter: (1) Those with ureteral and renal dilatation of the pelvis; (2) blunting of the calices (pyelectasis and so-called hydronephrosis); and (3) evidence of destruction of the renal parenchyma (pyelonephrosis or pyonephrosis).

Urinary findings of heavy albumin, good dye excretion in a function test, no increased blood nitrogen retention, diminished output of urine and tissue edema, are definite evidence of glomerulotubular inflammation of the renal parenchyma wherein the nitrogen waste of the body accounts for the decreased osmotic tension of the blood and the consequent edema. An old sclerotic process of the kidney interstitium from previous long standing inflammation, with a secondary contracted kidney, shows urinary findings of no albumin, increased fluid output, no tissue edema, and therefore a high blood nitrogen content — so-called interstitial nephritis, which is a true nephrosis. Any of these conditions may be basic with a secondary pus infection during pregnancy.

In the treatment of pyelitis of pregnancy, the viewpoint of the specialist in urology is liable to be somewhat radical in the opinion of the general practitioner or the obstetrician. It may well be when one considers that the usual expert urologist has never managed an obstetrical case throughout, especially not one in the home under the ordinary financial conditions. Estimating the cost of hospitalizing a patient for treatment of the renal pelvis for the few days necessary, it will be seen to approximate the total cost for delivery of the baby. Mere mention of the hospital is frequently sufficient to decide the patient to lie in bed at home for weeks, with pain, fever, vomiting and imminent danger of miscarriage as well as danger of developmental defects in the baby from calcium waste; rather than the more rational treatment of drainage of the kidney through the ureteral catheter with the usual subsidence of all symptoms within a few days at most. The remission of the infection can usually be accomplished at home without any inconvenience to the patient, and with little more to the urologist than in the hospital. The ideal as well as the most convenient place for treatment is at the patient's home. Cystoscopy is quite practicable at home at a very moderate cost to the patient. A moderately intelligent female attendant, or the husband, is all that is necessary for the most rational program of treatment by reversal of the symptoms through overcoming the causative factors.

TREATMENT

Ordinarily, rest in bed on a back-rest; forced fluid intake; hot packs or water bag to the back; alkalinization of the urine with citrocarbonates; or acidification and methenamine intravenously; removal of intestinal stasis and foci of infection; possibly colon or staphylococcus vaccines; and regular bladder washes after the removal of the residual urine and instillation of mild antiseptics—result in a prompt subsidence of all symptoms. All of these measures should be used routinely.

Should recovery not be complete by the end of a week, more active treatment is necessary. Drainage of the renal pelvis following the insertion of a ureteral catheter through the cystoscope results in a rapid remission of fever and all symptoms and is the ideal method of treatment if the pathology present is comprehended. One renal pelvic lavage with the instillation of a few c.c. of silver nitrate 5 per cent or of S T 37 is usually sufficient. Should there be a recurrence—

Repeated lavage at regular intervals with drainage of the renal pelvis by an indwelling catheter until the temperature is normal will be necessary. When a nurse is in at-

tendance, two catheters, one into the renal pelvis and one lying in the ureter, can be left in place and lavage can be done several times a day with saline or antiseptics. At least twice daily injections into the catheter should be made. X-ray catheters do not damage the ureter in any way, and form no incrustation of urinary salts. Cases of retention catheter left in for a period of two months have been reported with no apparent damage to the ureter.

Should the above treatment not be curative, there exists a pyonephrosis or a pyelonephrosis which is much worse than the suspected pyelonephritis of pregnancy. In these cases, consultation with the obstetrician as to termination of pregnancy or operation on the kidney is indicated.

Pyelotomy or nephrotomy on a badly infected kidney, with prolonged drainage through the flank may at times be a better step than a therapeutic abortion which relieves only the pyelitis of pregnancy and after which further operative procedures may be necessary. Usually kidney operations during pregnancy or the puerperal state are tolerated better than in the nongravid condition and the patient may then carry on to normal delivery.

Infection due to streptococci instead of the usual colon or staphylococcus, should respond promptly to treatment or immediate termination of pregnancy is indicated.

A previous nephrectomy in a pregnant woman is never in itself an indication for abortion; nor is there any special danger to becoming pregnant.

Post-partum sub-involution of the ureter may frequently occur where there has been a ureteritis in pregnancy, and since experimentally the hypodermic injection of pituitary extract has been shown to be as specific on the lower ureter as it is on the uterine musculature, regular injections in the puerperium is indicated. Careful urologic investigation is necessary in every case where all symptoms and signs have not disappeared after delivery where there has been a pyelitis of pregnancy. Stone formation in the staphylococcus infections from its ability to decompose urea may have occurred during the pregnancy and may require investigation.

Previous pyelitis with apparently no aftereffects is never an indication against future pregnancies.

SUMMARY

The treatment of renal disease of pregnancy requires a fair understanding of the causative factors.

Drainage is the requisite for recovery.

Recurrence is common and if ureteral catheter drainage should be unsuccessful, operative drainage is often better than abortion, spontaneous or induced.

Drainage necessary may readily be accomplished at the patient's home by cystoscopy.

After delivery urologic investigation is indicated to prevent chronic renal destruction.

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FAMOUS MEN IN MEDICAL HISTORY

AN APPRECIATION OF SIR WILLIAM OSLER

DON M. LE DUC, M.D.

(Continued from March issue)

OSLER THE PATHOLOGIST

As in the case of so many of the great clinicians who went before him, and whose lives he loved to study, the foundations of the skill and knowledge of Sir William's later life were based upon the strenuous and studious early years, spent not only at the bedside, but also in the study and demonstration of the great science of pathological anatomy. His interest in the postmortem room and his free use of the microscope are among the most conspicuous facts in his history, revealing, as they do, the quick grasp of essentials which was the outstanding feature of his genius.

Osler's interest in pathology is perhaps best shown in an editorial by Dr. Warthin, in which he states, "My personal acquaintance with Dr. Osler began in my own pathological laboratory and museum sometime in the later nineties. He had stopped over in Ann Arbor as the guest of Dr.

George Dock, who, showing him the University, brought him finally into the crude quarters in which I was endeavoring to build up a department of pathology. My autopsy service, under 25 yearly, had in the course of several years furnished me with about two hundred museum specimens. This small collection was not passed by with hurried superiority or indifference, but was examined by him with most evident interest and sympathy. It contained some unique specimens of leukemia and pernicious anemia to which he reacted just as I saw him later react to a rare book. One of these was a preparation of hemo-lymph nodes from the prevertebral tissues of a case of pernicious anemia. These quite excited him, because he had, as early as 1885, noted the occurrence in pernicious anemia of lymph glands having 'a rich red color, on section looking more like spleen tissue than lymph gland.' He was much pleased to have this observation of his corroborated and explained by another worker, and after looking at the microscopical sections of these glands, and listening to my interpretation of them as hemal nodes, he shook hands with me warmly, saying, 'A little field well-tilled! How much more may come from it than from a large one with its surface only scratched!'

"It may easily be imagined what effect this had upon the young pathologist—what encouragement and stimulus derived from such sympathetic appreciation! The memory is indelible; the glow of the reaction persists to this day. As my knowledge of the man grew, I came to know that this was Osler—the fine and ready appreciation of the work of others, and the sympathetic expressions of appreciation. In his generation of medical men there was no other one like him in this respect. How often and to how many did he send those little notes of praise and encouragement signed 'Osler'! They must have influenced the development of American medicine to a degree that can never be fully realized. And who is there to take his place in this respect with the younger generation of American medical students!

"Osler's interest in pathology and in the collections of specimens of disease, as shown in his early days at McGill University, and in his association with that medical museum, has been written of by others. His student days were characterized by his interest in the autopsy and the microscope; his graduating thesis was on Pathological Anatomy; and the earlier years of his professional life were occupied with the formation of the pathological collections that today constitute one of the most valued treasures of McGill Medical Museum."

To depart from Dr. Warthin, we find this collection came into being through the fact that it was natural for Sir William to set aside for preservation, as a permanent record of important facts, any remarkable material which he came across in his autopsies which illustrated points of teaching value, or which were to him of interest as a basis for intensive study. In this way he quickly assembled a collection which, while especially rich in specimens of cardiac and arterial, gastric and lung diseases, is representative also of the whole range of human morbid anatomy, as well as significant of his activity in veterinary and medico-legal medicine. Each specimen has been neatly chiselled down to show the lesion freed from encumbering details, and remains of scientific interest today, bearing silent but emphatic witness to his skill in dissection and selective faculty. All are fully described in his hospital protocols of the 787 autopsies performed by him during the nine years he was at McGill.

To return to Dr. Warthin, "In how great a degree these contributed to his later views regarding various diseases and their complications is revealed in his medical writings.

"Dr. Osler had the clearest and broadest conception of pathology as the fundamental science of medicine. He had also the museum instinct. To him the pathological specimen, properly prepared and catalogued, was a record of disease more instructive than any textbook description could possibly be. He valued rare specimens as he valued rare editions. Each had a wonderful beauty of its own—valuable in that it demonstrated some essential bit of knowledge of disease for which it should be preserved as an individual record. He had the feeling of the old-time naturalist for these specimens. He loved to look at them, comparing and contrasting, seizing upon their individual points, and correlating these with the clinical symptoms produced by them. He knew, moreover, how to describe them in such a telling way as to excite interest in the most apathetic of medical students. The pages of descriptions of the pathological specimens

catalogued by him during his Montreal years bear eloquent witness to his enthusiasm for this branch of medical teaching; and this enthusiasm of his earlier years of pathological training never left him. Indeed, it constituted one of the most important factors of his success as a teacher of internal medicine, and it gave to his textbook that individual flavor which made it unique."

Osler's "clinics" in the autopsy room were as interesting as those at the bedside. He reconstructed the history of events from the specimen and correlated it with the clinical history. There was frequent reference to cases seen at Montreal, Philadelphia, and elsewhere. The student was able to obtain a mental picture of the patient and the specimen described. Osler showed in this regard a characteristic common in British and rare in American clinicians; namely, the knowledge of specimens which illustrate a clinical problem. British clinicians are wont to refer to certain specimens in a manner similar to reference to a patient in an adjoining bed.

There was never any difficulty in having Osler present at an autopsy and almost any engagement would have to wait. He may have come as an onlooker, but very often he was taking part before he knew it. If the pathologist was a bit slow he usually took hold of the work himself. His assistants were always watching to turn up his sleeves and cuffs, as he rarely thought of them, and it was difficult to persuade him to put on rubber gloves. Nearly always he handled the specimens himself, and was not content at merely looking at them. Physicians commented on the fact that they were unable to get Dr. Osler to come for a consultation with a large fee, but that he would always come to attend an autopsy in which he was interested.

OSLER THE CLINICIAN

Sir William was one of the most important links in the evolution of clinical knowledge. He represented not only the older type of clinician who was above all a great observer, but also the newer generation whose advances were, in the main, noteworthy because of laboratory research.

Osler differed from almost all clinical teachers of his time in the fact that he did not dictate or prescribe any of the polypharmaceutical prescriptions then in vogue. Largely for this reason he was spoken of as a therapeutic nihilist, although he expressed the soundest view on the use and study of drugs in his text. He thought one could get along quite satisfactorily with six or eight drugs. One of his favorite prescriptions was "time in divided doses." He joyously quoted the remarks of a colleague that "Osler's therapy consisted of Hope and nux vomica."

One of his favorite axioms was that in the last hundred years no one had done the good in the practice of medicine that had been done by Hahnemann. This, he would explain, was not due to any scientific theory or important truth that Hahnemann had advanced, but by the application of his methods it had been demonstrated to the medical profession that the natural tendency of disease was toward recovery, and that the best results were usually achieved if the patient were decently cared for and properly nursed. One of the most forceful lessons in treatment ever seen was when Osler took charge of a section of the hospital at Montreal and applied the above principles. All unnecessary semblances of sickness and treatment were removed. Nursing was made excellent, the environment cheerful and little medicine given. The results were astounding.

A patient writes: "To have been a patient of Sir William Osler in your youth was to have obtained an almost impossible ideal of what a physician could be. . . . As he passed about, gallant and debonair with a whimsical wit that left the air sweet and gay, with an epigram here and a paradox there, tickling the ribs of his colleagues, none felt him frivolous. The deep, sad eyes of his soul watched a little cynically the light humor of his mind. It was not necessary for him to be sensitive to a social atmosphere, because he always made his own atmosphere. In a room full of discordant elements he entered and saw only his patient and only his patient's greatest need, and instantly the atmosphere was charged with kindly vitality, every one felt that the situation was under control, and all were attention. The moment Sir William gave you was yours. It was hardly ever more than a moment, but there was, curiously, no abrupt beginning or end to it."

Osler never forgot the patient in his interest in the malady. There was a tradition among the clinical clerks that "if you want

to see the chief at his best, watch him as he passes the bedside of some poor old soul with a chronic or hopeless malady—they always get his best."

OSLER THE TEACHER

Dr. Osler had decided ideas as to the proper way to teach medicine, and these were not always in accord with prevailing methods. His ideas seem to have been influenced largely by the teachings of Louis, of whom and of whose methods of work he was an ardent admirer. He subscribed most heartily to the positive or modern method of study of medicine by observation and analysis as distinguished from theory and dogma. He quotes with entire approval Louis' words:

"The edifice of medicine reposes on facts, and truths cannot be elicited except from those facts which have been well and completely observed. To get an accurate knowledge of any disease, it is necessary to study a large series of cases, and to go into all particulars; the conditions under which it is met, the subject specially liable, the various symptoms, the pathologic changes and the effect of drugs."

Listen to Osler's own words: "In what may be called the natural method of teaching, the student begins with the patient, continues with the patient, and ends his studies with the patient, using books and lectures as tools, as means to an end. The student starts, in fact, as a practitioner, as an observer of disordered machines, with the structure and orderly functions of which he is perfectly familiar. Teach him to observe; give him plenty of facts to be observed, and the lessons will come out of the facts themselves. For the junior student in medicine and surgery, it is a safe rule to have no teaching without a patient for a text, and the best teaching is that taught by the patient himself. The whole art of medicine is an observation, as the old motto goes, but to educate the eye to see, the ear to hear, and the finger to feel, takes time, and to make a beginning, to start a man on the right path, is all we can do. We expect too much of the student and we try to teach him too much. Give him good methods and a proper point of view, and all other things will be added as experience grows."

In an introductory address at the opening session of the McGill Medical School in 1877 Osler said, "Let me add a word of advice on the method of studying. The secret of successful working lies in the systematic arrangement of what you have to do, and in the methodical performance of it." It is seen that this principle of an orderly system for the study of medicine was in his mind at the beginning of his career, and every year grew stronger until it dominated his work, and culminated in his Practice of Medicine, the greatest instrument of our time for the reduction of the study of this Art to a logical scientific basis.

Osler did more than any other man of his day to teach all men that the study and cure of disease is a pursuit which a properly trained mind can follow with as keen an enjoyment and uplift as an artist can study great pictures or a musician can hear great masters. Before Osler came, the student was prone to regard cancer as a cancer; when Osler left, the student studied cancer as an aggregation of cells possessing untold mysteries to be unravelled.

Chief among Osler's professional attainments was an intimate knowledge of his subject—not a mere superficial acquaintance with its scientific side, but a penetrating understanding of it and of each and every collateral branch. With this masterful grasp of his subject he combined a thoroughness in the investigation and consideration of cases. With this thoroughness went a marvelous capacity for exact observation and a memory power unusual to a degree, capable of reclaiming alike from experience and from literature material that would throw new light on the subject at hand.

Osler's clinical lectures were not really lectures on one given subject, but a demonstration of individual signs and symptoms present in the patient and important in the disease. In ward class, he studied the students and used his impish tricks to test them. For example, he was prone to ask a student whether he heard a certain murmur and on being answered "Yes," as he usually was, would say, "But I do not," and smile quizzically. He was a tremendous intellectual stimulant and made the student perceive what he saw and get pleasure in perceiving.

The ability to transform crude, unthinking youths into serious students was not the result of mere chance. Osler created students because he himself was a student. Students were taught by him to observe, record and think.

Osler's interest in his students and assist-

ants was deep and genuine. In addition to the teas, dinners and other social events to which many were invited, he, for several years, met at his home each Saturday evening from 8 until 10:30 the senior medical group, and discussed their ward patients, books and current and past medical literature with them. In this way every member of the class came in direct personal contact with him.

Osler taught medical men to love the literature of the profession as well as the highest type of general literature, and thus taught them culture. His love of the Fathers of Medicine served to teach them that they should learn what those before had done before boasting of the attainments of the present.

Like all great teachers, Osler possessed the ability to make his students independent in their thought and action, seeking not to make them mere imitations of himself, patterned according to his own mould; rather did he aim to have them develop that which was distinctive in themselves, inspiring them through his own aspirations and strivings to attain new heights of knowledge and power. His talent was not that which can merely copy, imitate, and reproduce the work of predecessors, rather was it that form of genius which penetrates, interprets and reveals.

Sir Clifford Albutt tells us that Osler had that wonderful power only possessed by a few great teachers of "inseminating other minds." Wherever he went the wheels began to go 'round, things began to be done, and all for the good of the profession and humanity.

Osler disliked examining, and held rather a poor opinion of examinations, for qualities in a man which they fail to reveal were such as appealed to him, but when examining a candidate he always treated him as a friendly equal and put him at his ease.

Dr. Arnold Klebs, in Dr. Garrison's history, gives us the following homely but vivid pen-picture of Dr. Osler while teaching at Hopkins: "Never can one forget the scenes in the outpatient department, where he stood surrounded by his boys, helping them as a friend in their struggles with some difficult case. He would go to one, put his arm around his shoulder and then begin a friendly inquiry, interspersed with humorous remarks and allusions. . . . Urging, encouraging, inspiring, so we saw him, always exact, dogmatic never, and when the humorous, friendly fire kindled in his eyes, we could not help but love him, and with him the task we had chosen for our life work."

OSLER THE MAN

Osler was a rather small man, with a dark olive complexion, black eyes, black hair, and high intellectual forehead, faultlessly dressed in a dark frock coat, light trousers, a standing collar with flaring points. He walked with a quick, active step, not uncommon with those of alert minds and taut muscles.

The dominant note in the harmony of his character was his great love of humanity, his abiding interest in, and sympathy with, his fellow men. This was manifest not only in his life, but in everything he ever said or wrote. Dr. Maude Abbott describes this attitude in other words when she speaks of his "invincible optimism, his belief in the inherent greatness of man." It was his settled policy never to speak ill of anyone, but to always discover the good, and thus avoid hostility by kindly coöperation.

Above all Osler was a scholar. In early life he had given little time to the classics, but few men have lived more completely in the atmosphere of great minds of the past. An insatiate reader, his memory was remarkable and the timely and happy quotation was always on his lips. Nightly for half an hour he communed with that which was best in literature. He loved books, and early laid the foundation of that great collection which was his at the time of his death, a collection, at the outset, of the first editions and early publications of the masters of medicine, and later, treasures in all branches of science and humanities. At the time of his death he had accomplished the impossible—Osler, doctor of medicine and practitioner of his art, was president of the British Classical Association.

We learn something of his philosophy from the following: "As to your method of work, I have a single bit of advice which I give with the earnest conviction of its paramount influence in any success which may have attended my efforts in life. Take no thought for the morrow; live neither in the past nor in the future, but let each day's work absorb your entire energies and satisfy your widest ambitions. . . . While medicine is to be your vocation or calling, see to it that you have an avocation, some intellectual

pastime, which may serve to keep you in touch with the world of art, of science, or of letters. Begin at once the cultivation of some interest other than the purely professional. The difficulty is in a selection, and the choice will be different according to your tastes and training; but, no matter what it is, have some outside hobby. For the hard working medical student, it is perhaps easiest to keep up an interest in literature. Let each subject in your year's work have a corresponding outside author. When tired of anatomy, refresh your mind with Oliver Wendell Holmes; after a worrying subject in physiology, turn to the great idealists, to Shelley or Keats, for consolation; when chemistry distresses your soul, seek peace in the great pacifier, Shakespeare; when the complications of pharmacology are unbearable, ten minutes with Montaigne will lighten your burden. To the writings of one old physician I can urge your closest attention. There have been, and, happily, there are still, in our ranks notable illustrations of the intimate relations between medicine and literature; but in the group of literary physicians, Sir Thomas Browne stands preëminent. The 'Religio Medici,' one of the great English classics, should be in the hands, the heart, too, of every medical student. As I am on the confessional today, I may tell you that no book has had so enduring an influence on my life. . . . It was one of the strong influences which turned my thoughts toward medicine as a profession, and my most treasured copy, the second book I every bought, has been a constant companion for thirty-one years."

In everything that Sir William wrote that was not of a strictly scientific character, there is evident the fruits of his wide reading and familiarity with the classic literature of all races and ages. We are familiar with Osler's list of bedside books, suggesting, long before Dr. Eliot's "Fifteen Minutes a Day" plan for mental improvement, that keeping this little library at the bedside and dipping into it morning and evening would yield surprising results. Although the writings of Osler abound with quotations from, or references to, all of those mentioned in his bedside list, as well as many others of the classics of literature, yet his literary style is peculiarly his own and his power of quotation was unlimited and inimitable.

Osler's personality was unquestionably an important factor in his useful life. His bright face, quick intuition, and, above all, his kind and courteous manner, inspired confidence and affection in all. He always saw the ludicrous side of things. Many a time the children would rush out to him as he walked down the street and bring him their sick dolls to mend. He was never in too much of a hurry to stop and have a kind word before dancing away. Even then they would follow as fast as their little legs would permit. He would turn and throw them kisses with both hands.

While a student in Montreal, as in every other period of his life, Osler succeeded in establishing the strongest friendships with those about him through his genial companionability, and his wonderful faculty for hard work and constant acquisition of knowledge.

He was always the friend of the student and of the young practitioner. He says, "Many of you have been influenced in your choice of a profession by the example and friendship for the old family doctor or of some country practitioner in whom you have recognized the highest type of mankind and whose unique position in the community has filled you with laudable ambition. You will do well to make such a man your example, and I would urge you to start with no higher ambition than to join the noble band of general practitioners. They form the very sinews of the profession—generous-hearted men, with well-balanced, cool heads, not scientific always, but learned in the wisdom of the sick room, if not in the laboratories." Osler advised his young friends as to lines of work and suggested ways and methods. He was always personally interested. He infected them with his own enthusiasm and love for science, for he was a most inspiring person, and his energy untiring. He belonged to that small class who do immense good in the world by their personality alone.

Professor Welch developed a thought which will undoubtedly be a most viable line of approach for those who, in the future, may attempt to estimate the position of Osler in modern medicine. Dr. Welch said, in brief, that Osler was, beyond peradventure, the greatest physician of his time, but that his fame is not the effect of any isolated quality or achievement, but the resultant of a remarkable complex—eminence in bedside medicine, in original contributions to scientific medicine, in medical history, as an originator of many pithy apho-

risms and novel views of things, as a publicist, and as a friend and mentor to patients, pupils, and colleagues alike.

In conclusion, I quote, "To no member of its body today does the profession of medicine owe so great a debt—not that humanity is not also deeply in his debt. Jenner or Pasteur has his first mortgage on mankind, his second on men of medicine. With Osler the order is reversed. He has made no profound or fundamental discovery, but no one of our day has, in his life, teaching, and example, so radiated, far and near, an inspiration to his fellow physicians. Wide and accurate learning; enthusiasm in the pursuit of truth; a character in which elevation and charm are singularly marked and rarely blended; a personality which wins perforce the love, admiration, and respect of all who come within his influence; a kindly eye which sees the good in every man and thus stimulates him to better it—these are the main threads woven into the fabric of his beautiful life. Who that meets him, who that reads his essays and addresses, in particular, does not come forth or arise with renewed strength and hope to the service of his fellow man, a better soldier, in the medical corps of the Divine army?"

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ERRATIC ENGLISH

John o' London's Weekly

We'll begin with a box, and the plural is boxes,
But the plural of ox should be oxen, not oxes.
Then one fowl is a goose, but two are called geese,
Yet the plural of mouse should never be meese.
You may find a lone mouse or a whole set of mice,
But the plural of house is houses, not hice.
If the plural of man is always called men,
Why shouldn't the plural of pan be called pen?
If I speak of a foot and you show me your feet,
And I give you a boot—would a pair be called beet?
If one is a tooth, and a whole set are teeth,
Why should not the plural of both be called beeth?
Then one may be that and three would be those,
Yet hat in the plural would never be hose,
And the plural of cat is cats, and not cose.
We speak of a brother, and also of brethren,
But tho' we say mother, we never say methren.
Then the masculine pronouns are he, his and him,
But imagine the feminine, she, shis and shim,
So English, I fancy, you all will agree,
Is the funniest language you ever did see.

TUBERCULOSIS ABSTRACTS*

Adolescence is a period of strain. Youngsters who have, during the earlier years of childhood, been massively infected with tubercle bacilli are likely during the teen age period to develop the adult type of tuberculosis. It is during high school years that the destiny of many of these children is decided. This is reflected in the steep rise in the death rate curve during the late teens and early twenties. Walter L. Rathbun has, since 1923, made a systematic search for early tuberculosis, regardless of symptoms, by means of the tuberculin test and the X-ray. He has recently completed the task of examining practically every high school pupil in Chautauqua County, New York; namely, 7,171 children. His experiences are recorded in a special publication, from which these abstracts are derived.

Tuberculosis among High School Students

Examinations of school children for early tuberculosis began in Chautauqua County, New York, in 1923 by sending to local clinic centers (a) pupils physically below par, (b) those who had symptoms referable to tuberculosis and (c) those who have been exposed to the disease. The results of the first year's effort were enlightening, but since facilities were limited, it was decided the next year to examine only the high school groups because these children leave school first. Each high school student was given a chest examination without reference to family history, height-weight ratio, or symptoms. The results justified the procedure as many cases of tuberculosis were found among those in whom it was least suspected and who were apparently perfectly healthy.

Of the students so examined, three groups were then X-rayed: (a) those with suggestive signs of pulmonary tuberculosis; (b) those in actual contact with a case of tuberculosis; (c) those with history of previous or present symptoms referable to tuberculosis. All such children were transported to Newton Memorial Hospital, where they were X-rayed. This procedure continued during 1924 and 1925, when the plan was broadened by carrying the diagnostic work directly into the schools.

Examinations Made in Schools

The Chautauqua County Tuberculosis Association furnished funds to purchase a portable apparatus and X-ray films which made it possible to do the work in the school buildings. Incidentally, while it is true that the portable X-ray machine has its shortcomings, it is capable when properly handled of revealing lesions of the childhood and the adult type. The few cases in which more detail is needed may be X-rayed with a high-powered machine. The utility of the portable apparatus is a distinct advantage, and having the examinations made in the school arouses interest among school people. Stereoscopic sets of pictures were made routinely.

In 1926, the mode of procedure was again modified. Students were taken from the study halls and X-rayed, and only those with definite or suspicious signs were given a physical examination. This speeded up the work and also increased the percentage of positive cases. The tuberculin test was not insisted upon as a routine measure at that time because public opinion was not favorable to its use whereas X-ray examinations were heartily approved.

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*Reprinted from *Tuberculosis Abstracts*, a review for physicians issued monthly by the National Tuberculosis Association, April, 1931.

In 1927, the intracutaneous tuberculin test was introduced as the first procedure in diagnosis. A specially trained nurse made the test and read the reaction, thus saving valuable time of the physician. It was necessary to secure the consent of parents to make the test; hence, the percentage tested was reduced to about 50 per cent. Positive reactors only were X-rayed.

INTIMATE CONTACT IMPORTANT FACTOR

These studies indicated that tuberculous disease of the lungs and tracheobronchial lymph nodes results from prolonged and intimate, rather than casual, exposure to tubercle bacilli. Intimate exposure most commonly takes place in the home. It was found that the percentage of positive reactors was greater among children living in the city of Jamestown (44 per cent) than among similar groups in the villages (25 per cent) but that the incidence of tuberculous disease of the childhood type was about the same in rural and urban areas. Apparently, while casual contact (which is more common in cities) may be the starting point of an infection as revealed by the tuberculin test, it is incapable of causing demonstrable disease in most cases. Intimate contact with a sputum positive case of pulmonary tuberculosis is the usual cause of the disease. In 54 per cent of the families of tuberculous children, a parent had either died of the disease or had pulmonary tuberculosis at the time. In 17 per cent of the families, there was a parent with suspicious signs of tuberculosis. In some cases, the "spreaders" were older siblings, in one, a nursemaid, and in another, a boarder.

RESULTS OF STUDY

During the past seven years, 30,000 pupils, 7171 of whom were of high school age, have been examined, with the following results:

	Number	Per cent
Negative to tuberculin test	570	7.9
Negative on X-ray	5676	79.2
Children requiring observation	538	7.5
Childhood type tuberculosis	250	3.5
Suspect adult type tuberculosis	50	.7
Adult type tuberculosis	60	.84
Miscellaneous	27	.36
	7171	100.

Cases of childhood tuberculosis were 15 per cent higher for females than for males, while the morbidity for the adult type was 43 per cent higher among females than among males.

Many of the arrested cases continued school work but were given eight week's treatment in a high school health camp located on the grounds of the hospital. During the past two years, a high school has been conducted for students under treatment in the hospital. Local school authorities are well satisfied with the experiment. For ambulatory cases and some bed cases, school work is the most profitable kind of occupational therapy.

PROTECTING THE STUDENTS' HEALTH

The tendency in modern schools is to push the students to the limit of their capacities. Healthy children can stand the pace, but not those who are below par physically. Therefore, those with physical disabilities, real or potential, must be searched for and protected from overwork. Similarly, sports and competitive athletics must be curtailed for the physically handicapped. Rough handling and excitement are heavy drains on the body reserve and frequently precipitate a breakdown. School authorities in Chautauqua County co-operated admirably in protecting those who needed protection.

The public schools are logical centers for the dissemination of medical knowledge about tuberculosis, just as they serve as convenient units for discovering cases. Every student should be examined before graduating and certainly before working papers are granted.

Of course, no child with positive sputum should be allowed to attend school lest he infect his fellows.

"Every available resource that can be spared should be devoted to the public school field, for in the control of tuberculosis our hope of success in the years to come rests largely upon the care of the youth of today."—*Health in High Schools, Walter L. Rathbun, Nat'l Tuberc. Ass'n.*

PRINCIPLES OF PROGNOSIS IN CANCER

William Carpenter MacCarty, Rochester, Minn. (*Journal A. M. A.*, Jan. 3, 1931), states that there are at least fifteen factors governing prognosis in cancer: (1) The presence or absence of glandular involvement and distant metastasis. (2) Fixation of growth. (3) Location. (4 and 5) Renal and cardiac efficiency. (6) Anemia. (7) Size of growth. (8) Age. (9) Direction of growth. (10) Loss of weight. (11, 12, 13 and 14) Cellular differentiation, lymphocytic infiltration, fibrosis and hyalinization. (15) Duration of disease. Signs and symptoms in cancer have to do with size, anatomic location, mechanical obstruction and hemorrhage. Even pain is usually insignificant unless associated with mechanical obstruction. None of these are diagnostic of cancer or even prognostic if therapy can be instituted. Many benign conditions present such signs and symptoms and may have been present long before cancer has arisen. Any system of microscopic grading of cancer should not alone be of accurate clinical value without taking many other factors into consideration. Furthermore, any system which merely states that a certain percentage of patients with certain grades live a certain length of time does not necessarily furnish data for any specific case. In other words, there is no criterion by which one can state that a given case belongs in the favorable or unfavorable percentage. Moreover, the wise and successful practitioner of the art of medicine will certainly take all possible factors into consideration in making a clinical prognosis. These practical clinical generalizations should not inhibit or prohibit pure scientific studies of possible factors which may or may not be indexes of behavior rather than prognosis in cancer. Perhaps these indexes might be of clinical value in the future, but at present all grading of cancers should be considered in the investigative or experimental stage.

ADENOCARCINOMA OF THE HEAD OF THE PANCREAS

Elmer Hess, Erie, Pa. (*Journal A. M. A.*, Jan. 3, 1931), reports the case of a woman who noticed a tumor mass in the right side of the abdomen, which was freely movable. A competent man, head of a prominent diagnostic clinic, reported after a complete gastro-intestinal study that the tumor, which apparently was fixed to the lower pole of a freely movable right kidney, was probably a hypernephroma. Several cystiscopic studies were made, with the final preoperative diagnosis calcified cyst of the lower pole of the right ectopic kidney. At operation the kidney was found to be perfectly normal, although freely movable. The tumor mass, which was below the pelvic brim, was easily delivered into the loin incision and easily removed. Death occurred forty-eight hours later. Observations at autopsy revealed that an adenocarcinoma, involving the head of the pancreas, had been removed.

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APRIL, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

PRIVILEGED COMMUNICATIONS

Many states have enacted statutes forbidding the disclosure in evidence, against the will of the patient, of information acquired by physicians in their professional capacity. These statutes have been enacted on the ground of public policy for the purpose of facilitating and making safe, full and confidential disclosure by patient to physician of all facts, circumstances, and symptoms, untrammeled by apprehension of their subsequent enforced disclosure and publication on the witness stand, to the end that the physician may form a correct opinion, and be enabled safely and efficaciously to treat his patients.*

Closely akin to the subject of this paragraph is the matter of giving out any information which a physician receives in the process of making a physical or other kind of examination of his patient. Such information is best treated as confidential. This also refers to the matter of handing out roentgenograms or copies as well as original hospital records or copies of the same to third parties. The ownership of roentgenograms has not been legally established to date. There is a possibility of a decision by the supreme court of Michigan in the near future which will decide their ownership. In the meantime, quoting from a communication by Dr. William C. Woodward† of the American Medical Association: "Neither a railroad nor an insurance company has any right to inspect the records of a physician or a hospital relating to patients. If a railroad company or insurance company desires to inspect the records of a patient including roentgenograms or to obtain copies of records of patients including roentgenograms it should be required to produce authority from that patient to do so, or if the patient is a minor or under guardianship, from the parent or guardian." Dr. Woodward advises the responsible officer of a hospital if in doubt about the propriety of giving out copies of a patient's record to resort to the safest plan, namely to deliver the copy of the record to the patient himself or to the guardian as the case may be. In other words a physician or hospital should not part with any such confidential information without the authority of the patient in writing.

In view of possible litigation it is well that the doctor be thoroughly informed as to his rights and privileges under the law. In making out claims for insurance companies, questions are frequently asked by the insurance company, to supply the answer to which would lay the physician liable. He will do well to safeguard himself in the matter of answering these questions. This may be done by insisting on the patient's or guardian's permission in writing if the patient be a minor or a ward.

*Medical Men and the Law. Page 289. Culbertson.

†These extracts are made from a letter by Dr. Woodward which appeared in the February, 1931, number of the Wisconsin Medical Journal.

OCCUPATIONAL DISEASES

The governor's message emphasized the desirability of including occupational diseases and morbid conditions arising out of occupation among those resulting from accident which are taken care of under the workingmen's compensation. Desirable as this might appear to be from the viewpoint of the workingman, the complications are far reaching. Its adoption might easily work both for and against him: for him, inasmuch as it would afford financial relief for a larger range of disabilities than now covered by the act; against him, since it would lead to greater discrimination on the part of the employer as to whom he should hire. Even as the situation stands at present many industries subject the prospective employe to an examination for the ascertaining of the grosser physical defects. The inclusion of occupational conditions (we will not use the term *disease,* inasmuch as the abnormality may not have progressed far enough to present demonstrable pathology) will tend to make the employer still more cautious. The tendency will be to take the working classes entirely out of the care of the private practising physician as the present workingmen's compensation law has resulted in a specialized branch of surgery—accident or industrial surgery. It will give rise to a specialty in which the neurologist may become an industrial neurologist, inasmuch as occupational neuroses will occupy a position near the center of the stage.

The psychology of accident neuroses calls for serious study. In our advocacy of universal personal liability insurance for the drivers of automobiles, we were confronted by insurance companies with the experience of Massachusetts, where a compulsory personal liability law has been in force for some time. In Massachusetts it is said suits against insured drivers for minor injuries are common. Dr. Max Eyrich, a German psychiatrist, observes that the economic position of the average person is more or less insecure, and after an accident it is not so much the threat of personal injury as the possibility of *economic* disability that produces anxiety as regards the future and therefore induces him to seek economic relief by litigation for damages.

Many conditions coming under the heading of traumatic neurasthenia arise when financial responsibility for accidents can be shifted to someone else. They seldom occur when the sufferer must shoulder the burden himself. For instance, traumatic neurasthenia seldom follows accidents on the golf links or in the gymnasium. It would seem that to relegate the condition commonly known as *traumatic neurosis* from the compensative field would eventuate in doing away with mental deterioration traceable to comparatively trivial accidents. Anyone who gives it a thought must realize that in the matter of occupational diseases we are at once confronted with a condition that is too complicated to admit of a dogmatic stand. There are certain conditions such as lead poisoning and gas poisoning arising out of one's connection with industry that would seem to be as deserving of compensation under some sort of workingmen's compensation law as a broken arm; yet who would deny that an injury to the nervous system resulting from working at concert pitch over a long period surrounded by vibration and noise, is not also as much entitled to come under the heading of occupational disease as those conditions which admit of visual diagnosis? Again, so-called accident neuroses may be exacerbations of previously existing conditions, for they may be the development of an unchecked hysterical symptom that has become a sort of severe anxiety state.

This is not written in a spirit of adverse criticism of the proposal to place occupational diseases in the same category as injuries received at work. It is, however, the part of wisdom to consider carefully all possible contingencies that may arise.

HEPATO-LIENOGRAPHY

What does it mean? While roentgenology is one of the most recent of the specialties, its progress during its thirty-six years of existence has been marked. At first a method of examining broken bones and dislocations, it has become an important factor in the diagnosis of almost every internal condition in which observation or inspection is a factor. Hollow viscera were early shown up by the contrast or opaque meal. Then came the employment of air or gas to bring into relief the solid viscera, and with it we have the terms ventriculogram and pneumoperitoneum. Later we have the employment of dyes, so that cholecystography and excretion urography are

more or less common diagnostic procedures in the X-ray laboratory.

By means of the Potter-Buckey diaphragm the roentgenologist has been able to show the contour, position and size of such organs as the liver and spleen. A German worker, P. Radt, has demonstrated a method recently for the greater definition of these viscera. The Radt method is based upon the fact that the reticulo-endothelial system of the spleen and the Kupffer cells of the liver possess the property of taking up certain foreign colloids in a selective way. Radt used at first a substance known as tordiol, a thorium-dioxide, and later a preparation in which it is combined with a carbohydrate. This substance has the advantage of stability since it is not precipitated by body fluids. The diagnostic possibilities are due to the fact that the preparation is radiopaque. Following up his experimental results on animals, Radt made intravenous injections with twenty patients from which he reported no serious results beyond slight malaise which passed off after a few hours.

The X-ray findings by Radt in his studies which are described under the new terminology, hepato-lienography, are summarized as follows: clear shadows of both liver and spleen are shown. Indefinite shadows result in cases where the normal structure of either of these organs is changed by disease. In cirrhosis of the liver accompanied by excessive fibrous change the thorium compound is not taken up. Metastases in the liver are manifest by clear spots. So far as the spleen is concerned the diagnostic use of thorium appears to be confined to outlining the shape and determining the size rather than throwing light on the internal structure.

AN IMPORTANT WARNING

A letter authorized by the chairman of the medico-legal committee has been mailed to each member of the Michigan State Medical Society advising the routine use of the X-rays in all cases of plain fracture as well as suspected bone injury. All so-called "sprains" should be examined routinely by the X-rays. Often the X-ray examination is dispensed with through the desire to save the patient what might seem an unnecessary expense. The patient, however, never feels so charitable towards his physician in the case of an unsatisfactory result. No doctor can afford to omit this means of diagnosing bone injuries. Not only does the X-ray examination facilitate more intelligent treatment, but it is, besides, a protection to the physician. The roentgenologist, who confines his time and attention to X-ray diagnosis, preserves the films for ready reference; he makes a report on the condition found, which is given the referring doctor and a copy filed in the office of the X-ray consultant to be produced, giving all details when called for. Such records are valuable in the case of dissatisfaction on the part of the patient. The advice of the roentgenologist as a consultant is also invaluable to both physician and patient.

For his own benefit each member should read carefully Dr. Tibbals' letter and act according to his advice, should occasion arise. As chairman of the medico-legal committee he knows whereof he writes. Competent X-ray specialists are within reach of almost every portion of the State; and it is only those physicians practising in a remote locality, where the patient may be so seriously injured as not to permit of his removal to a laboratory, who might be excused from making use of this universally recognized diagnostic means.

DR. EWING ON CANCER

The 1931 Beaumont Foundation Lectures were held as announced, Feb. 23rd and 24th in the auditorium of the Wayne County Medical Society, Detroit. The lecturer, Dr. James Ewing, Professor of Pathology of Cornell University, discussed the subjects of Cause, Diagnosis and Treatment of Cancer. The audience packed the hall, which accommodates somewhat less than one thousand persons. This fact is mentioned to show the eagerness with which the profession strive to obtain the latest knowledge on this subject. There were also noted many of our members from throughout the State. This is as it should be, as the idea of the Beaumont Foundation is the greatest good to the greatest number. It is needless to say the quality of the series was equal to that of the lectures of former years. This is the tenth annual series.

These three lectures will be published in book form by the Williams and Wilkins Company of Baltimore, who have the contract for publication. They constitute a syn-

thesis of the knowledge of the subject which has been made probably for the first time. We make this statement with full knowledge of the fact that the literature on malignant growths is very extensive and that there are voluminous works on the subject. The present volume, however, when it appears, will be in the nature of a monograph, a small book presenting the result of the professional life-long studies of a master. Dr. Ewing will retire shortly, after a long and brilliant career as Pathologist of Cornell University, during which period his service as Pathologist has been fruitful in discovery as well as the examination and sifting of knowledge concerning malignant disease.

We shall not attempt to report, nor to summarize even, these three brilliant lectures. They are such an organic whole that no reporting less than verbatim could do them justice. We will mention one thing only, and that is the fact that the speaker urged a fuller and more complete study of the cancer situation by the physician in general practice, who invariably sees such cases first. For this, if for no other reason, the shortly anticipated volume should have a wide circulation. It is not in any particular sense a specialist book.

POST-GRADUATE MEDICINE

This is a perennial, a permensial (why not?) subject of interest to the medical profession. The attendance at medical meetings is an indication of the eagerness of the profession to learn, when there is a speaker with a message. In spite of the fact that medicine and the medical profession have been under fire in the lay magazines, no other profession as a whole has done so much towards self-improvement, a fact which a few of the better class of laymen acknowledge. (See first page of the cover of this number of this Journal.) From the very nature of medicine it calls for more constant study and sifting, eliminating and evaluating of data than any other. Law is concerned largely with slowly established precedent; theology has always been conservative and in some cases reactionary; great advance has been made in the physical and chemical sciences, including engineering; but these proceed for the most part along mathematical lines. Medicine will never be wholly scientific. It will never yield to measurement no matter how closely it may approximate accuracy. There will always be the human, the personal, element. To speak of medicine as both art and science has become somewhat hackneyed. The art of medicine as we understand it is concerned with the amenity which goes to secure the good will and confidence of the patient; it is a sort of practical psychology and in many instances its importance cannot be overestimated. It is only when we have this, combined with the scientific factor, that we have the highly efficient physician; without it we have the charlatan. The so-called art of medicine does not well lend itself to pedagogical methods. The clinical and laboratory methods, however, were never more efficiently taught than they are today.

Those who may spend a year or more in post-graduate medical study are fortunate (we use the term *medical* to include surgery and the medical and surgical specialties). Many, however, cannot, for reasons best known to themselves, spend so much time on it. For them the medical journal and the short term intensive course concentrating at a single subject or even a single phase of the subject is a very desirable alternative. This opportunity, as we have announced from time to time, is being given at the University Hospital by the Department of Post-Graduate Medicine. Courses are being arranged for in Detroit under the Department of Post-Graduate Medicine of the University of Michigan and splendid opportunity has been afforded at the Herman Kiefer Hospital, Detroit, for the intensive study of infectious diseases.

FIRST AID *vs.* PRACTICE OF MEDICINE

In February, the Board of Registration received a general complaint that first aid men and nurses were practicing medicine in many industrial plants. The complaint was acknowledged and a partial investigation was made.

It was found that industrial plants had one or more company surgeons. In some of the larger factories a full time surgeon is on constant duty and attends every injury or acute illness. In many other factories only nurses or first aid men were on constant duty and the company surgeon visited the plant but once a day. In these plants it was

found that first aid men or nurses removed foreign bodies, dressed and treated injuries, sutured wounds and prescribed medicines.

In consequence of these findings a general letter was sent to some of the larger factories to ascertain where first aid ended and the practice of medicine and surgery began. It was stated that first aid consisted of the application of a sterile dressing to an injured part, the arresting of hemorrhage, the immobilization of fractures and the administration of a safe stimulant. There first aid ceases. First aid does not include cleansing of the wound, application of antiseptics, ligation of vessels, the suture of wounds, removal of foreign bodies, or the prescribing of drugs. That constitutes medical and surgical practice and can only be done by a licensed physician.

It was pointed out that the. apparently simple cut or bruise, the puncture made by a sliver or nail was potent to cause the most virulent infection. It was also stated that after the first aid care the injured must be seen by a physician and that he should be sent or taken to a physician if one was not on full time duty in the plant.

It is unfortunate that industrial plants have been encouraged to employ nurses and first aid men to care for injured employees. It is regrettable that company surgeons have condoned and frequently established this plan of treating injuries. Some company surgeons go so far as to send nurses or first aid men to treat injured employees in their homes.

These practices are open violations of the medical practice law. When complaints are made the Board of Registration has no alternative than to advise of the violation and give warning that to continue such practices lays one liable to the penalty of the law. It is hoped that company and industrial surgeons will cause a cessation of treatment by unlicensed individuals. First aid has a definite limitation.

THE STIGMA OF CHARITY

(The Detroit Free Press)

A philanthropist in Texas closed his breadline weeks ago because its patrons came to it in automobiles and he concluded that if they could pay for gasoline they could pay for bread. The overseer of the poor in a New Jersey township more recently complained that he is hindered in relieving acute distress, by families which have been on the town from five to fourteen years, who come in their cars for groceries and then turn up their noses at the bread he issues and throw it on the pavement. "They haven't asked me for gasoline yet," he added, "but I wouldn't be surprised if they did."

They have asked for it in Toledo. They have gotten it in Wyandotte. The mayor of the latter city told its council this week that, with the welfare fund already $16,000 overdrawn and likely to run $75,000 in the red, some of the recipients of the municipal dole drive up for it in "expensive sedans" and "the gas they use is generally city-supplied also." Admissions by local officials and welfare workers show that Detroit has its own share of people ready to cash in on the present widespread advertisement and exploitation of destitution, who insist upon having more than they need, with the result that others must take less than they need.

A good deal of this abuse has been encouraged by the wild preachment of the doctrine, at Washington and in lesser political quarters, that those who have never saved anything have a "right" to demand to be kept by taxpayers who themselves may be unable to meet their taxes, with all their industry and providence. There is reason to believe that city-aided families in Detroit have been deliberately padded by the "colonizing" of relatives or friends from other and less generous parts of the country; that others are conserving their own money, while sponging off the taxpayers. These people have the honesty of the men who beg in the streets and die with thousands in the bank. They fatten on the dole, while honest people have to go without. The city, as well as these crooks themselves, would be better off if, as Mayor Murphy has intimated may have to be done, an example were made of some of them in court. The deserving needy can be more adequately cared for if the sources from which relief is being dishonestly obtained are dried up.

ADJUSTED AT LAST*

Young Tommy delighted in kicking his nurse
  When he couldn't have pie for his lunch,
At the age of eleven his temper grew worse,
  And he packed, for a child, a mean punch.
The village physician at last was called in,
  But his verdict the family mistrusted,
For he said it was only original sin—
  Not that Tommy was badly adjusted.

As the urchin grew up he would get into fights
  With the much smaller children next door,
And stay out until 10 or 11 of nights,
  While his parents were walking the floor,
When his mother was out for an afternoon call
  He would put kerosene in the filter,
Which wasn't the fault of poor Tommy at all—
  His adjustment was quite out of kilter.

At college he wore an expensive coon coat
  And developed a liking for beer,
But never a theme or a thesis he wrote
  And was flunked in his sophomore year.
He was sent the next term to a tutoring school,
  But again he found out what a bust meant—
Which wasn't because the poor boy was a fool,
  But because he was out of adjustment.

Now Tommy drives round in the family car,
  Twenty jobs he has lately turned down,
But he knows the location of every bar
  Within forty-five miles of the town.
His mother is plunged in the depths of despair
  And his hard-working father is busted
And broken in spirit, but Tommy don't care,
  For at last he is nicely adjusted.

*This "pome" appeared in the *New York Herald-Tribune*. It was reprinted in the *New York State Medical Journal*, from which it was appropriated by us.

THE CHEMICAL KISS

(Scientific American)

The skin on the face of a pretty girl is made up of thirteen chemicals! John H. Foulger, well-known chemist, Medical College, University of Cincinnati, says 100 grams of skin contain: Water, 61 grams; albumin and globulin, 0.7; mucoid, 0.16; elastin, 0.34; collagen, 33.2; phosphates, 0.032; fats, 0.761; common salt, 0.45; potassium chloride, 0.04; lime, 0.01; also minute quantities of magnesium oxide, iron oxide, aluminum oxide, and sulfur.

Charles Ludwig, in the Cincinnati *Times-Star,* is inspired to verse by this chemical analysis of sex appeal.

The skin you love so much to touch,
Now savants tell us, isn't much—
Take thirteen chemicals and mix,
And skin jumps from that bag of tricks!

In epidermis of sweet lass,
Potassium and chlorine gas
Unite with common iron rust!
—Our fairy is not even dust!

And when you kiss and say "Yum, Yum"
You osculate magnesium!
Her cuticle has lime and salt—
Now will your fondling ardor halt?

Hell's phosphorus and sulfur, too,
Come into play when lovers woo;
Commingle in the velvet skin
With mucoid and with globulin.

Aluminum in pan and pot
Doth never cost a man a lot:
Much dearer Al_2O_3
In every maiden's cheek you see.

There's KCl and H_2O—
How strange that men admire it so!
The formula you love so well
Has CaO, NaCl.

And since the awful truth is out—
Fair skin's no more than sauer kraut—
Will gallant lovers now all beat
From cooing trysts a cold retreat?

NOT MUCH! Damè Nature put in skin
A chemiçal named COLLAGEN!
Its still small voice doth lure all men—
Depend on it, they'll CALL AGAIN!

NATURE ABHORS A VACUUM

The process whereby one thing takes the place of another is automatic. Nature abhors a vacuum in the mental as well as the physical realm. If a man loses his sickness, he automatically gains health, if he loses his ignorance, he acquires knowledge; if he loses his prejudices he becomes broadminded; if he loses his fears, he gains courage; if he loses h nonsense, he gains sense; if he stops praying for miracles, it means that he has learned to depend upon natural methods; if he ccases to look for help from heaven, he will try to help himself; if he parts with his illusions, he will grasp realities; if he stops thinking of himself as a poor worm crawling in the dust, he will begin to assume the stature of a man; and the moment he ceases to be a blind believer, he becomes an intelligent inquirer.—Dietrich.

"Bodies like the legal and medical professions are much better able to direct their own internal life than to have it directed for them by the state."

—Harold Laski.

DEATHS

DR. WILLIAM BLAKEWAY HANNA

William Blakeway Hanna, Mass, Michigan, Hahnemann Medical School, Chicago 1889. Former President of the Ontonagon County Medical Society. For many years Health Officer of Greenland Township and Coroner of Ontonagon County. Also President of the Miners and Merchants State Bank of Greenland. Died at his home at Mass, Michigan, February 15, 1931, from carcinoma. Aged 67.

COMMUNICATIONS

The Editor, Journal of the Michigan State Medical Society:

Soon after the death of Dr. Preston M. Hickey a movement was started to establish some sort of a memorial to this leader in the field of Roentgenology. After due deliberation the idea of a "Preston M. Hickey Memorial Library" was considered most feasible.

As Dr. Hickey had in his last years developed an organization for postgraduate training in Roentgenology at the University Hospital, Ann Arbor, that department has been selected as the location for such a library.

Mr. W. W. Bishop, Librarian of the University, will accept and combine such a collection of books with the Medical Section of the general library, have them catalogued and listed and maintain an exchange in case of duplication. This can be done and still allow the library to be within the Department of Roentgenology for use of the staff and students. Dr. Hickey had hoped to establish such a reference library.

The men trained under Dr. Hickey and those of his colleagues who know of the plans have signified their willingness to donate one or more volumes to this project. I am writing this letter in order that you may give it editorial comment if you so desire.

We feel that there are numerous friends of Dr. Hickey who would like to join in this effort but it would be rather difficult to reach them except through the medium of radiological publications. We are sending a letter to the editor of each journal and asking that, if he mentions the attempt which is being made in behalf of this memorial, he request any one who cares to donate to communicate with Mr. W. W. Bishp, Librarian at the University of Michigan, Ann Arbor.

Hoping that you will find space to give this some comment, I remain,

S. W. Donaldson.

February 2, 1931.

"It has been said that the history of medicine should deal only with the development of ideas and that biography is of value only so far as it bears on ideas; this no doubt is the main aim of medical history but it should not be exclusively so. Not only are medical pioneers the earliest expression of the spirit of the time, but are often far in advance of their contemporaries and by their outstanding ability and personality break new ground, determine the nature of the advance and provide the stimulus for fresh research."—From Aspects of Age, Life and Disease. By Sir Humphrey Rolleston.

GENERAL NEWS AND ANNOUNCEMENTS

Dr. Byron W. Malfroid read a paper on Maternal Mortality in Flint at the regular meeting of the Genesee County Medical Society March 4.

Dr. Frank C. Mann of the Mayo Foundation delivered a very interesting address on the Physiology of the Liver before the Wayne County Medical Society at the general meeting March 3.

Dr. W. L. Casler has had his membership in the Marquette-Alger County Medical Society cancelled for alleged improper and unprofessional conduct in the matter of advertising.

Dr. Alexander R. McKinney and Dr. Andre J. Cortopassi of Saginaw announce that Dr. McKinney will in the future confine his practice to ophthalmology including ophthalmic surgery and that Dr. Cortopassi will limit his work to otorhinolaryngology.

The Public Health Committee of the Wayne County Medical Society is sponsoring lectures on contagious and infectious diseases, at Herman Kiefer Hospital every Wednesday morning at ten A. M. Post-graduate lectures on venereal diseases will be given during February and March; and tuberculosis during the months of April and May.

A Commitee consisting of Drs. J. D. Bruce, Frederick Coller, C. J. Lyons, John Sundwall, M. E. Soller, A. C. Thompson, W. R. Davis and J. H. Dempster met at Ann Arbor March 7 to consider health lecture outlines for the ensuing year. This is a special committee appointed by the Joint Committee on Health Education.

"Occupational Diseases" included in House Bill No. 35 under the Workmen's Compensation Act specified are: glanders, lead poisoning, mercury poisoning, arsenic poisoning, poisoning by benzol and its derivatives, volative petroleum products, carbon bisulphide, wood alcohol, infections due to oils and cutting compounds, and lubricants, dust, liquids, fumes, gases, vapors, carbon pitch and tar, compressed air illness, carbon dioxide poisoning, brass and zinc poisoning, nitrous fumes, "dope poisoning," menthone poisoning and miners' disease.

A meeting of clinical teachers and instructors who had largely taken care of postgraduate teaching under the postgraduate department in Medicine of the University was held at the club rooms of the Wayne County Medical Society on March 18th. The object of the meeting was to consider the advisability of postponing all postgraduate work in Detroit that had usually been sponsored by the Department of Postgraduate Medicine of the University of Michigan, owing to insufficient funds to carry on the work. The subject was freely discussed and it was unanimous decided to continue the work. All clinical instructors signified their desire to continue without any stipend for their services. At the meeting, which was a noon luncheon, President Ruthven of the University was present as a guest. Dr. Ruthven in a brief address expressed his sympathy with the postgraduate movement as being in accord with the object of the University in its general work of postgraduate education.

THE NORTHERN TRI-STATE MEDICAL ASSOCIATION

The program of the fifty-eighth annual meeting, at Ann Arbor, Michigan, Tuesday, April 14, will begin promptly at 9:00 in the Hospital Amphitheatre as follows: Dr. Cyrus C. Sturgis, Prof. of Medicine in the University of Michigan, Pernicious Anemia (Clinic); Dr. John Alexander, Prof. of Clinical Surgery in the University of Michigan, Certain Problems in Thoracic Surgery (Clinic); Dr. Frank Wilson, Associate Prof. of Medicine in the University of Michigan, Cardiac Clinic (Clinic).

The afternoon and evening sessions will be held in the Natural Science Bldg. and Michigan Union.

Dr. Frank Arnold, Madison, Wisconsin, The Diagnosis and Treatment of Diseases of the Thyroid Gland; Dr. L. J. Karnosh, Cleveland, Ohio, Neurology of the Emotions (Slides); Dr. Norman F. Miller, Prof. of Obstetrics in University of Michigan, Pelvic Inflammatory Diseases; Dr. Plynn Morse, Detroit, Michigan, Sudden Deaths; Dr. George Crile, Cleveland Clinic, A Further Report on Clinical Results of Degeneration of the Adrenal Glands (Slides).

This program will be further augmented.

ELOISE HOSPITAL APPROVED

The Council on Medical Education in Hospitals of the American Medical Association has sent the following letter to Dr. T. K. Gruber, Superintendent of the Eloise Hospital Infirmary, Eloise, Mich. Dr. Gruber was for a number of years Superintendent of the Receiving Hospital, Detroit, before his appointment as Superintendent of Eloise Hospital. The following is a copy of the letter:

Dr. T. K. Gruber, Superintendent
Eloise Hospital and Infirmary
Eloise, Mich.

Dear Doctor Gruber:

The approval of your hospital for giving the general internship, the fifth year in medicine, was recommended to the Council at its recent meeting, and it is a pleasure to say that the approval was granted by an unanimous vote.

Will you kindly bring this letter to the attention of the staff and board of trustees and any other who may be interested?

We expect to pay you an occasional visit to observe the progress being made in the training of interns. When necessary we will also request reports for which convenient forms will be sent you.

Very truly yours,
Council on Medical Education and Hospitals
(Signed) Homer F. Sanger

DR. HUME HONORED

Dr. A. M. Hume of Owossa was honored by the Shiawassee County Medical Society February 19 in recognition of a half century spent in the practice of medicine. The occasion was a complimentary dinner when Dr. Hume was presented with a travelling set. The presentation was made by Dr. G. T. Soule. Dr. Hume made a feeling response to the sentiments

expressed by Dr. Soule on behalf of the medical society. Dr. Hume left for California in March on a visit to his brother which accounted for the early date at which the complimentary dinner was held. Dr. Hume's fifty years of practice was completed on March 10. On that date in 1881 he received his diploma from the Detroit College of Medicine. He began practice at Bennington with his brother, the late Dr. W. C. Hume. After two and one-half years he moved to Owossa where he formed a partnership with Dr. Jabez Perkins who died in 1907. In 1909 Dr. Hume admitted his son, Dr. Harold A. Hume, to practice. Father and son have practised together ever since. During his half century Dr. Hume has not only rendered invaluable service to his city and community as physician, but he has been active in a civic sense as well. Organized medicine has profited by his wisdom and experience. He was a member of the State Board of Registration in Medicine for ten years and has been a member of the American Medical Association for forty years. He was made a Fellow of the American College of Surgeons in 1910 and in point of membership he is the oldest member of the Shiawassee County Medical Society. He has served as President of his County Society and in the years 1918-19 he was President of the Michigan State Medical Society. Dr. Hume has also served as a medical officer of the Michigan National Guard in 1890-1899 with the rank of Major. During the World War Dr. Hume was called into service by Governor Albert E. Sleeper to take charge of the Michigan Bureau of Military Relief in New York. He has been Chief Surgeon of the Ann Arbor Railroad since his appointment in 1910. He has been an ardent Free Mason, having attained the 33rd degree. He was Grand Master of the Masons of Michigan 1909-10. He has served twelve years as a member of the Board of Education and was President for several years. Dr. Hume's numerous friends in the medical profession join his confreres of Shiawassee County in extending congratulations and best wishes for a long and prosperous career.

HICKEY NUMBER

The February number of the *American Journal of Roentgenology and Radium Therapy* which is edited by Dr. Lawrence Reynolds of Detroit has been largely given over to a memorial number to the late Dr. Preston M. Hickey. The frontispiece consists of a very natural photograph of Dr. Hickey in a characteristic pose. The first article on Dr. Preston M. Hickey, 1865-1930, is by Dr. A. W. Crane of Kalamazoo, a life-long and intimate friend of the late roentgenologist. President Ruthven, of the University of Michigan, contributes an article on Preston M. Hickey: His Relation to the University of Michigan; Dr. A. S. Warthin writes on Dr. Hickey's Relation to the Medical School; Dr. E. W. Hall as Hickey, the Teacher; Dr. A. B. Moore, Hickey and the American Roentgen Ray Society; Morris Fishbein and Nicholas Leech, Hickey's Work with the American Medical Association; Dr. Arthur C. Christie, A Note on the Military Career of Preston M. Hickey; Dr. W. D. Coolidge, Hickey, the Scientist; Dr. W. J. Mayo and B. R. Kirklin of the Mayo Clinic and Dr. A. E. Barclay of Cambridge, England, contribute "An Appreciation"; Dr. Percy Brown, Preston M. Hickey—Caldwell Lecturer, 1928. The hitherto unpublished Caldwell Lecture of 1928 by Dr. Preston M. Hickey appears in full in this number of the Journal. The publication of the lecture was delayed by Dr. Hickey who had an idea of expanding it into a monograph as explained by the editor in a foot note. The lecture appears for the first time posthumously as found among his papers. The February number of the *Journal of Roentgenology and Radium Therapy* contains the usual list of interesting papers pertaining to the science of Roentgenology. It is a number that merits a goodly circulation outside the regular subscription list.

A RECORD YEAR

Michigan had three record achievements in 1930—the lowest death rate, the lowest infant mortality rate, and the lowest maternal mortality rate in the history of the state.

There were 51,561 deaths in 1930, equivalent to a death rate of 10.6 per 1,000 population. This compares with the preceding four years as follows: 1926—12.4; 1927—11.3; 1928—11.9; 1929—11.9; 1930—10.6.

In spite of the increase in population, there were 4,556 less deaths in Michigan in 1930 than in 1929.

The infant mortality rate is a second matter for congratulation. This rate is based upon the number of deaths of children under one year of age per 1,000 living births. There were 6,217 deaths of children under one year of age in 1930, equivalent to an infant mortality rate of 62.9. The rate was 66.9 in 1929. When we consider that a generation ago, in 1900, the infant mortality rate was 157.1, the tremendous advance will be clear. The rate for 1930 was only about 40 per cent of what it was thirty years ago.

The maternal mortality rate, upon which it seems to have been the most difficult to make an impression, was 5.9 in 1930, the lowest in the history of the state. There were 584 deaths from puerperal causes, giving a maternal mortality rate of 5.9 per 1,000 living births, as compared with 6.3 in 1929. This same rate was 10.3 in 1900, a cut of almost one-half in 1930.

The birth rate, however, was not so encouraging. It fell from 20.9 per 1,000 of population in 1929 to 20.4 in 1930. There were 98,882 births in 1930, 187 more than in the preceding year but not sufficient to hold the rate in the face of the increased population. Comparison of the rates for the five years is as follows: 1926—22.5; 1927—22.3; 1928—21.2; 1929—20.9; 1930—20.4.

This falling birth rate is by no means peculiar to Michigan. Advance reports from various states indicate that a number of them will show rates under 20 for 1930.

W. J. V. D.

SOCIETY ACTIVITY

DUES

Your 1931 dues were payable on or before April 1. Are yours paid? The House of Delegates has directed that all those in arrears on April first shall be placed on the suspended list and that they be deprived of medico-legal protection. If in arrears, please see your County Secretary.

OBSERVATIONS

The Civic and Industrial Relations Committee report is published in this issue. A communication has been sent to each county society. Members are urged to comply with the Committee's recommendations.

Our members desired a history of Michigan's Medical activity. Under the able editorship of Dr. Burr that history has been compiled. There are 700 unsold sets. County secretaries are canvassing the membership. If you do not own a set place your order with your County Secretary.

The State Legislative Committee is meeting every week. Read their report as contained in the Executive Committee's minutes this issue. Local legislative committees are urged to maintain constant contact with their representatives and senators.

Section officers are preparing their programs for our September meeting. Applications should be filed with Section officers for program assignments.

Dig up your March Journal. Read again the addresses of Tibbals, Sinai and Waggoner as contained in the minutes of the County Secretaries Conference. There is also much information in Dr. Riley's article. In these slow times you will find these articles interesting reading.

Our advertisers make our Journal possible. They merit your patronage. Are you reading the advertising pages?

You may be experiencing a reduction of business and collections in the present depression. It might be worse. In five states there are doctors who are unable to buy gasoline. Some are receiving food rations from relief agencies. We in Michigan are fortunate for no such reports have come from our members.

The Chairman of the Council and the Committee on Hospital Survey had a conference with our University officials. Read their report in the Executive Committee's minutes this issue.

Lastly, if your dues were not paid by April 1, you are on the suspended list. Remedy this by sending a check to your county secretary.

COUNTY SOCIETY CONTRACTS FOR CARE OF THE POOR

Iowa is given credit for sponsoring the plan whereby county societies undertake to care for the county indigents. We append a general statement of the Iowa plan. It is recommended that our county units give it careful consideration.

METHOD OF CARING FOR INDIGENT SICK

Furnishing medical service for the county poor presents a serious problem to the members of most county societies in Iowa. The Haskell-Klaus law provides for those needing hospital care, and the situation here referred to does not in any way affect that law; but the ambulatory and home bedside cases and all inmates of county jails, poor farms, etc., present a grave problem. How is the county to pay for medical services for those cases that must be cared for locally? Supervisors, social workers, volunteer agencies, medical societies and individual physicians have tried various solutions; but, with one single exception, every method has various drawbacks, most of which end by working numerous hardships upon the medical profession.

This successful method has for some time past been in satisfactory use in eleven societies in this state. Many others are now contemplating adoption of the same system. The plan is that of a blanket contract between the medical society and the county supervisors, by which the county pays a fixed annual sum in return for which the society furnishes for the county poor all medical care.

The annual payment varies from $1,600 to $12,600 and goes into the society treasury. Service to the indigent sick is rendered upon the order of the supervisors, township trustees, or other authorized persons; and such service is distributed among the members of the society as evenly as possible.

The societies having such contracts are Hardin County, Marion County, Marshall County, Scott County, Washington County, Webster County, Mahaska County, Jefferson County, Fort Madison, Waterloo and Council Bluffs (the last three being limited to the cities). Many other counties have similar proposals under consideration. The advantages of this plan, according to its advocates, are:

1. Unjust inequalities in payment to physicians for indigent sick services eliminated.
2. Removal of friction between the county medical society or its members and the board of supervisors or social workers.
3. General satisfaction of the community with its physicians because of effective medical service given to the indigent sick.
4. A full treasury which solves the financial problems of the county society.

The latter point is an important one in many ways. The secretary-treasurer never needs to worry about collecting dues, nor members about paying; for county, state and A. M. A. dues can be paid out of the general funds of the component society. Ex-

pense money is always available to bring the best speakers from even distant points, so that the problems of the program committee are solved. Medical protective insurance, on a group basis, can also be provided for every member out of the general funds.

As an illustration of the financial success of this plan, it is interesting to note that the society which receives the smallest per annum payment still has in its treasury some $7,000. Such surplus can of course be distributed annually among members on the basis of services rendered. Incorporation of the county society is a necessary step, since the corporation can then enter into a contract with the supervisors, and more especially since incorporation relieves the member physicians of any individual liabilities for acts of others.

ENACTMENTS RELATING TO THE PRACTICE OF MEDICINE

In scanning the Compiled Laws of 1929 for Michigan, it is interesting to note the many and extended sections bearing relation to the practice of medicine. To safeguard the public health and individual welfare we find the following references:

6446-6473—Public Health Department
6475-6572—Local Health Officers and Laws
6573-6599—Vital Statistics—Death Certificate, Birth Certificate
6600-6660—Communicable Diseases—Sterilization
6661—*Illegal Operations*
6662-6687—Sanitation—Sewerage
6733-6736—Dissection for Science
6737—Medical Practice Act
6750—Governing the Issue of Medical Diplomas
6757—Osteopathic Law
6765—Dentistry
6781—Optometry
6793—Chiropodists
6804—Nursing
6825—Board of Pharmacy
6878—State Hospitals and Commission
6992—Tuberculosis and Sanitariums
8159—Welfare Department
8295—Hospital Service for Afflicted Persons
8407—Compensation Law
9156—Liquor Prescription
9212—Narcotic Drugs
12883—Diseased and Crippled Children
16691—Offences against Public Health
16693—Adulteration of Drug or Medicine
16694—Prescription by an Intoxicated Physician
16703—Sale of Poisons
16705—Possession of Alcohol
16715—Acting as a Surgeon in a Duel
16718—Mayhem
16727—Rape
16739—Killing an Unborn Child
16740-16742—Abortion
16836—Disinterment
16847—Intercourse under Guise of Medical Treatment
16877-16884—Advertisement of Sexual Treatments
16890—Exhibition of Deformed Bodies

These are the more outstanding sections. In many of the other sections one finds reference to physicians, medicines and health policies. One is impressed that individual health is the concern of many sections of our state laws.

AMENDMENTS TO THE MEDICAL PRACTICE LAW

A bill providing for certain amendments to the present medical practice law has been prepared and is ready for introduction in the present session of the legislature.

The question is frequently asked: "Why amend the present law?" In a brief article it is impossible to set forth all the reasons or to cite the many experiences that are met daily and which make it imperative that these amendments be secured. The endeavor will be made to impart the outstanding reasons in tabulated form:

REASONS FOR AMENDMENT

1. The present law was formulated in 1899. It provides for a Board composed of regulars, homeopaths, eclectics and physio-medics. There no longer exist any of the schools of the last three specified classes. The Governors have been compelled to appoint to the Board so-called regulars. The Board is therefore illegally constituted. While the attorney general has ruled and the Supreme Court has determined that the present Board is a de facto board and therefore its acts are legal, yet in any disciplinary action the power of the Board may be questioned, quo-warranto proceedings instituted and thus the Board's acts and authority may be questioned and even nullified. To remedy this condition, the proposed amendment provides that the Governor shall constitute the Board from ten licensed practitioners of medicine.

2. The present law specifies the subjects in which a candidate shall be examined for license. Some of these subjects are no longer taught in our colleges. The amendment authorizes the Board to designate from time to time the subjects of examination.

3. The present law requires a four-year course in medical college. A goodly number of our Class A schools permit students to complete their college work in sixteen quarters over a period of three years in place of sixteen quarters over a period of four years. The Board is not empowered to license fully trained students who have completed their courses in three years. Consequently an amendment is worded permitting the Board to license these students.

VIOLATION BECOMES A FELONY

4. Under the present law a violation is a misdemeanor. The violator cannot be arrested or tried until evidence of fact is presented. Then when arrested he can appear, give bail and resume his practice, delaying his trial for from one to two years. An amendment is prepared to make violation a felony. This will enable the Board to obtain the arrest of a violator upon information, secure an injunction to prevent practice till tried and so expedite his trial.

5. In the wording of the present act it has been a debatable question as to whether a license can be revoked without first convicting the violator in a court of record. A recent Supreme Court decision has sustained the Board in this power but in order to block future appeals upon this legal question, the amendment clarifies the section and removes all doubt as to the Board's right or procedure.

6. Under the present law a license once revoked could never be reinstated. There have been occasions when it has been desirable to reinstate licenses. The amendment conveys this power to the Board.

7. In court procedures the present law designates the prosecuting attorney as the prosecuting officer. There have been many occasions where the prosecutor has refrained from proceeding because of local or political reasons. The amendment provides authority for the Attorney General to institute proceedings.

BENEFITS OF ANNUAL REGISTRATIONS

8. Under the present law, it is impossible to ascertain from year to year who is licensed, who have died or who have removed from the state. Within the year there have been found several who have practiced many years without a license. Illegal and unlicensed practitioners are practicing. In twenty-two states annual registration is in force. Annual registration, with a two dollar fee, is proposed. Every doctor would re-register during the month of January on a blank sent to him by the Board. Failure to re-register would not revoke one's basic license, such an individual would merely be in suspension and could re-register at any time. In February a list of registered physicians would be published. County Societies or individual physicians could check these lists. If it were found that a doctor was practicing in that county or vicinity and he was not recorded as registered, the reporting of the fact would cause an investigation and either result in the detection of a violator or cause the doctor to register. Licensed doctors, resorting to quackery or questionable practices could be disciplined and their licenses withheld until they observed the provisions of the law. Impostors would be uncovered. The licensed doctor would receive greater protection, the public would be safeguarded, and Michigan would obtain all the benefits that are now enjoyed by the profession in twenty-two other states. The amendment safeguards the meritorious licentiate who need fear no annoying restrictions of his rights. The competition of the irregular will be terminated. While it may be argued that the State should accord this feature without cost, yet the fact remains that with existing legislative conditions it is hopeless to expect the state powers to assume this function. Annual re-registration is the one and only solution of this problem.

Annual re-registration has been approved by the Special Committee, appointed by the House of Delegates, to investigate its merits and advisability. It has also been endorsed by the Legislative Committee of the Wayne County Medical Society. At first thought, reasons for opposition may be apparent, but when all the facts are known, when existing conditions are reviewed and the benefits appraised, then will it be conceded that re-registration will solve the present unsatisfactory situation.

CERTIFICATION OF SPECIALISTS

9. An amendment has been prepared that will empower the Board to adopt the minimum requirement that must be met by the doctor who seeks to become a specialist. Having met that requirement, the Board may issue a certificate attesting the applicant's qualifications as a specialist. This section is not a mandatory one, nor is it a compulsory enactment. It merely provides that he who desires such certification may obtain it when he meets the adopted requirements. There is no penalty for not possessing such a certification. It is an educational provision.

10. There are a few changes in phraseology which are deemed desirable in order to clarify certain paragraphs, thereby doing away with possible misinterpretations.

The foregoing explanatory paragraphs brief the reasons and set forth the purposes of the bill that will accomplish the strengthening of our medical practice act. It is a timely amendment and one that becomes necessary by reason of changing conditions. The profession's endorsement is solicited. It has been carefully studied and reviewed by quite a few of our members who are interested in the profession's welfare and who conclude that in spirit and purpose these amendments are indicated and desirable.

MINUTES OF THE MARCH MEETING OF THE EXECUTIVE COMMITTEE

1. The Executive Committee of the Council of the Michigan State Medical Society held its March, 1931, meeting in Battle Creek on March 4 at 5:00 P. M. with the following present: B. R. Corbus, chairman; James D. Bruce; George L. Le Fevre; C. E. Boys; Henry Cook; R. C. Stone, President; Carl F. Moll, President-Elect; F. C. Warnshuis, Secretary; John Sundwall and J. B. Jackson of the Legislative Committee.

2. The Secretary presented the application of Dr. Ignatz Mayer of 1212 Griswold Street, Detroit, Michigan, who had been elected a member by the Wayne County Medical Society, and desired certification of his membership in the Michigan State Medical Society and endorsement of his application for Fellowship in the American Medical Association. Dr. Bruce presented the following resolution, which was supported by Dr. Cook:

Whereas: For many years Doctor Ignatz Mayer has employed a method for the treatment of hernia, which method has been regarded as unsafe by the medical profession, and

Whereas: He has employed methods of exploitation discountenanced by the medical profession, and

Whereas: His application for membership in the Michigan State Medical Society and for Fellowship in the American Medical Association is consistent neither with our obligation to the public nor with our professional principles and ideals, therefore,

Be It Resolved:

That the application of Dr. Ignatz Mayer be rejected.

After due discussion, upon the motion put by the Chairman, the unanimous vote of the Executive Committee was to adopt the resolution.

3. The Secretary presented a communication from the Bruce Publishing Company setting forth a financial statement of the cost of publication of our History to date. This cost is as follows:

Printing Volume 1	$2,708.24	
Printing Volume 2	3,450.39	
Misc. Expense—Postage and Circulars	783.00	
		$6,941.63
Cash Received to Date		3,000.00
Balance Due Bruce Publishing Co.		$3,941.63

Copies on hand:
1 Leather Bound Copy of each volume
369 Bound Copies of each volume
400 Unbound Copies of each volume

The Bruce Publishing Company request a payment of $1,500.00 and stated that if that payment was made they would carry the balance of the account until all the copies of the history had been sold. Inasmuch as the Executive Committee at its February meeting made an additional appropriation of $1,000, upon motion by Le Fevre-Boys, an additional appropriation of $500.00 was made and the Secretary instructed to forward the same to the Bruce Publishing Company.

4. The Secretary presented a communication from the Chairman of the Committee on Civic and Industrial Relations setting forth certain expenditures that had been made for stenographic services. Upon motion of Le Fevre-Boys, the Secretary was instructed to issue a voucher for $25.00 in favor of the Chairman and to advise him that this was an appropriation for special stenographic services but did not institute a precedent for future appropriations.

5. The Secretary presented the following statement from the Chairman of the Council which imparted the progress that was being recorded in the solution of the University Hospital clinical services.

To the Executive Committee:
Re: Committee on Hospital Survey
Conference with President of the
University of Michigan.

Pursuant to your instructions your chairman requested a conference with President Ruthven of the University. The President most graciously suggested that he would be happy

to have your chairman and the members of the committee on Hospital Survey for luncheon at his home on February fourteenth. Accordingly your chairman transmitted the invitation to the committee. Dr. Marshall being unable to attend, Dr. Manwaring was appointed to represent him.

We met at the President's house, the executive committee of the faculty, the secretary Mr. Curtis, and Dr. Sawyer of the Board of Regents. The cordial manner in which we were received, and the willingness to discuss matters in which the University and the profession must have a common interest, was in marked contrast to similar conferences in the past, and augurs well for future beneficial coöperation.

Your chairman gave a short introductory comment referring to the attitude of the profession toward the University and the conditions and occasion which led to the resolution which resulted in the formation of the committee. Dr. Smith presented the report, and this was followed by a very general discussion in the course of which it developed that many of the suggestions embodied in the report had been adopted in the preceding two years and that occasion for criticism along these lines no longer existed. There yet remain, to be worked out by the University, certain plans which, if adopted, would answer other criticisms which were made in the report. It must be recognized that in the Smith Report certain hospital and medical school policies are suggested which are much at variance with existing methods.

We are gratified that the President and the executive committee of the medical school are so willing to concern themselves with these suggestions, and we are assured that they are, at this time, studying conditions and seem to truly hope that a plant satisfactory to the profession may be evolved. The President, after expressing to us his appreciation of this opportunity to hear the views of your committee, said that a formal statement would be made of the attitude of the University and its medical school in regard to the suggestions embodied in this report.

Respectfully submitted,
Burton R. Corbus,
Chairman Council
Michigan State Medical Society.

Upon motion of Boys-Cook, the statement was approved and ordered inserted in the records of this meeting.

6. The Secretary presented communications of the officers of the scientific sections regarding the scientific program for our next Annual Meeting. Upon motion of Boys-Cook, the Secretary was instructed to invite the officers of the scientific sections to meet with the Executive Committee at the April meeting for the purpose of determining the final details of the scientific program.

7. The Legislative Committee through its Chairman, Dr. John Sundwall, and its member, Dr. J. B. Jackson, presented the following memorandum of the activities of this committee:

(1) Committee appointed November 20, 1930. Regular meetings of Committee each Saturday. To date, eight meetings held. Interest of members.

(2) Scope of Committee's work: All Bills pertaining to Public Welfare considered. Not limited to Legislation which specifically affects medical practice. Attempts at constructive help and not opposition. Other interests considered.

(3) List of Bills considered:

S. B. No. 26—Coroners (under consideration)
S. B. No. 41—Hospitalization of mothers, illegitimate children, fix responsibility (under consideration)
H. B. No. 75—Provide medical and surgical treatment of children (under consideration)
H. B. No. 48—Control of Water Works (approved)
H. B. No. 49—Fees for searching birth certificate information (approved)
H. B. No. 63—Birth registration of unregistered births (approved)
H. B. No. 64—Rural sanitation, outhouses (under consideration)
H. B. No. 65—Registration of Laboratories (approved after certain changes)
H. B. No. 48—Supervision and Control of Water and Sewage Treatment and Disposal (approved)
H. B. No. 86—Amending Saginaw County Procedure for Dealing with Communicable Diseases (under consideration)
H. B. No. 45—Occupational Injury (no action)
H. B. No. 95—Automobile Drivers, Re-examination and re-registration (under consideration)
S. B. No. 7—Nurses. Read Miss Sargent's Letter (Bill withdrawn)
H. B. No. 85—Tuberculosis Sanatorium, Northern Michigan (under consideration)
H. B. No. 35—Workmen's Compensation (no action)
H. B. No. 87—Care of Indigents (under consideration)
H. B. No. 56—Control of Tuberculosis, Live Stock (under consideration)
H. B. No. 73—Prevention and supervision of contagious diseases of live stock (under consideration)
H. B. No. 88—County Health Board (under consideration)
Cosmetology Bill (under consideration)
Crippled Children's Bill (report by Dr. Jackson)
Chiropractic Bill (report by Dr. Sundwall)
Michigan State Board of Registration Bill National Board of Medical Examiners.

The various bills enumerated in the report of the committee were thoroughly discussed and the following action taken—

Upon motion of Cook-Boys, Bill No. 75 was not accorded approval.

Upon motion of Cook-Boys, Bill No. 35 was not accorded approval.

Upon motion of Bruce-Le Fevre, Bill No. 85 was approved.

In discussion of the amendments to the Crippled Children's Act, it was moved by Bruce-Cook that the State Medical Society endorses the limitations of that Act, whereby none other than orthopedic surgeons who are members of the orthopedic society shall serve in the clinics conducted by the Crippled Children's Commission; and further recommended that the orthopedic society take some action whereby competent surgeons with orthopedic ability be added to their membership and placed upon the professional staff of the Crippled Children's Commission.

The Bill introduced by the chiropractors to create a special chiropractic board was presented by the legislative committee. After discussion, upon motion of Bruce-Le Fevre, the legislative committee was instructed to record our opposition to this bill and that the statement prepared by the legislative committee be sent to the component county medical societies.

Upon motion of Cook-Boys, the legislative committee was directed to call to the attention of the Board of Registration in Medicine the desirability of including in the bill amending the present Medical Practice Act a provision which would recognize the credentials of the National Medical Examining Board, and request that the Board of Registration use its discretionary judgment as to whether this suggestion shall be included in the proposed bill of amendments.

8. The Chairman of the Legislative Committee requested instructions as to the limitations of its activity, and whether or not it might extend its labors into broader health fields. The Chairman of the Council stated that the Legislative Committee was created and provided for by the House of Delegates in our By-Laws and that its activities should be limited to purely legislative matters.

9. The expenses of the Legislative Committee, to the amount of $300.00, was reported and upon motion of Boys-Bruce this appropriation was made and charged to the legislative fund.

10. The Executive Committee adjourned at 10:30 P. M.

F. C. WARNSHUIS,
Secretary.

CIVIC AND INDUSTRIAL RELATIONS COMMITTEE MEETING

A meeting of the Civic and Industrial Relations Committee of the Michigan State Medical Society was held Monday, February 16, 1931, at the Wayne County Medical Society, Detroit, Michigan.

1. The meeting was called to order by Dr. H. S. Collisi, Chairman, at 6:45 P. M. Those present were: Drs. Collisi, L. O. Geib, Detroit; H. F. Dibble, Detroit; E. I. Carr, Lansing; G. C. Penberthy, Detroit; C. W. Brainard, Battle Creek; D. F. Kudner, Jackson; George J. Curry, Flint, and F. C. Warnshuis Grand Rapids. Also present were: Drs. J. M. Robb,

A. R. Hackett, A. C. Hall, and A. P. Biddle, all of Detroit. Also: Dr. R. M. Filson, Hartford, Connecticut, for the Travelers Insurance Company; Mr. F. A. O'Donnell of the Travelers; Mr. K. S. Teipel of the U. S. Fidelity and Guaranty Company; Mr. P. B. Sawyer of the Zurich General Accident & Liability Company, and Mr. R. J. Morris of the Michigan Mutual Liability Company.

2. The matter of physicians charging insurance companies for the execution of blanks and reports was presented by the Chairman.

Dr. Filson stated that the presentation of proof is the duty of the insured; that the claimant must support his claim and pay the fee. He felt that the amount of information requested could be shortened. This is a problem between the medical profession and the claimant, in which the insurance company does not enter. He claimed that ordinarily the physician's statement is of no value except to justify the claim.

Mr. O'Donnell stated that his company waives the physician's claim except in cases of disability. He stated that the Travelers had never paid a doctor's bill, according to this resolution of the State Society; that the purpose of the proof is for statistical reasons only.

Dr. Hackett objected to the long reports and to the necessity for affidavits. He stated that the doctor's time is worth money and those who are benefited should pay.

Mr. Teipel stated that his company had eliminated the affidavit because of the objections on the part of the medical profession; their present form asks relevant questions only.

Mr. Sawyer felt that doctors are assured of payment of their bills by the payment to the claimant of the insurance, and the doctor's bill should be ample payment for the completed statement and the physician's execution of necessary proofs.

Mr. Morris stated that his company had a blank containing a simple statement, which helped doctors and saved their time; that the proof of disability necessitates a certification from the physician, and this is the claimant's responsibility.

Dr. Robb stated that he had little personal experience with this type of work, but felt sure that the blanks would have more exact information and be more carefully filled out if the doctors were paid for same.

Dr. Curry mentioned several cases where the insurance company paid the families or claimant who thereupon squandered the money, and the physician received nothing. He asked the insurance men if they might not arrange to advise the physician concerning the time of paying the claimant so that the doctor could be assured of his fee. Under the present arrangement, the doctor was not only losing the fee for his services, but by filling out the blank gratituously was acting as an aid in the non-payment of his own bills.

Dr. Penberthy asked Mr. O'Donnell a question relative to the information requested by his insurance company. Mr. O'Donnell replied, and stated that some reports are a nuisance—that fraternal organizations have the longest reports and are getting by without claim departments.

Dr. Geib stated that insurance companies should pay doctors' bills on assignment. He asked Mr. O'Donnell if this could be done and the answer was in the affirmative.

Dr. Carr stated that he felt there were some benefits to the insurance company other than those mentioned—that on the physician's statements, insurance companies often denied claims and thereby saved themselves thousands of dollars.

Dr. Kudner objected to the large blanks and stated that the answers were worth $2.00 to the insurance company, or else why should the questions, other than those showing proof of claim, be required?

Dr. Warnshuis spoke at length and refuted the arguments presented. He claimed that the profession of this State should be remunerated for services, and very valuable services, which it is rendering to insurance companies. He stated that the insurance companies are the primary benefactors from these statements, and, therefore, should pay for the onerous clerical work forced on the doctors. He brought up the point that many questions in the statements touch on the confidential communication status between physician and patient, and that patients could sue doctors for divulging this information without their consent.

Dr. Collisi reviewed the entire situation, and the arguments of the doctors and insurance representatives present. He answered the various questions asked and ended by stating that insurance companies would be better off by paying $2.00 because they would receive accurate information and the good will of the medical profession.

Mr. O'Donnell suggested that the medical profession take up with the underwriters and the policy writers the matter of changes in the policies.

Mr. Teipel stated that his company for the past eighteen months has had one doctor in each locality obtain the statements in almost all cases, for which he is paid from $3.00 to $5.00 per, that the company is no longer using the attending physicians.

Dr. Filson brought out the question of ethics in that doctors charging for filling out statements would be paid by both the insurance company and the patient. Dr. Warnshuis answered that both are receiving service and both should pay.

A motion was made by Drs. Dibble-Curry that the Civic and Industrial Relations Committee respectfully requests insurance men to discuss this matter with their superiors and to meet again at a future date for a further discussion of this problem. This resolution was carried.

3. The meeting was adjourned at 10:15 P. M.

H. S. Collisi, M.D.,
Chairman, Civic and Industrial Relations Committee.

MINUTES OF THE MEETING OF THE JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION

Ann Arbor, January 22, 1931, Noon

This meeting was called in conjunction with the Medical Council and secretaries of a number of the County Medical Societies. Sixty-four members and guests attended the meeting, which was presided over by President Ruthven, chairman of the Joint Committee.

1. Minutes of the last meeting were read and approved.

2. Secretary's report of the health lecture program for the past fiscal year. The health program carried on under the direction of the Joint Committee, and through the coöperation of the Extension Division of the University, gives evidence of a continued expansion of these activities throughout the State. During the past year the number of people served in connection with extension lectures and other health activities was larger than for any previous year since the organization of the Joint Committee work. Health lectures may be classified in two ways: First, those which are assigned to Parent-Teacher Association programs, luncheon clubs, and other similar organizations; and second, those which are

given in connection with high school assembly programs:

Number of doctors and dentists assigned for health lectures	166
Number of high schools in which assembly programs were given	122
Total number of health lectures given in connection with high school assembly programs and club programs	578
Number of different high school students who heard from two to five health lectures	40,000
Total attendance upon health lectures	150,000

3. Report of the proposed plan of health education in coöperation with the State Department of Public Instruction. The State Department of Public Instruction appointed a special committee to draft a course of study in health for the schools of the State. This committee signified a desire to secure the coöperation of the Joint Committee on Public Health Education in connection with the carrying out of the new course of study. Mr. A. W. Thompson, representing the State Department of Public Instruction, gave a brief outline of the proposed course of study, with reference to its content and objectives. He stated that the State Department would heartily welcome any assistance that the Joint Committee might be able to render in connection with the proposed health program.

Upon motion of Dr. Warnshuis, the Joint Committee approved the proposed plan of coöperation with the Department of Public Instruction. The following committee was appointed to work out such a coöperative program in connection with the course of study outlined by the State Department: Dr. C. A. Fisher, Extension Division; A. W. Thompson, State Department of Public Instruction; Miss Marjorie Delavan, State Department of Health; Dr. James D. Bruce representing the State Medical Society; and Dr. W. R. Davis, Secretary of the State Dental Society.

4. Report of the Poster and Essay Contest, by Dr. Fisher. The number of enrollments in this contest for the past two years has been about one-third of the total assignments of high schools. The number taking part in the health Poster and Essay Contest this year will be about the same as for the past two years.

The Joint Committee approved the allocation of $100 for prizes for next year and it also authorized the payment by the Treasurer of $200 for the publication of a special bulletin, with the understanding that if the proposed bulletin should cost more than this amount the funds would be furnished by the Extension Division.

5. Report of the Publicity Committee. Dr. Bruce, chairman of the Publicity Committee, submitted his annual report covering the newspaper publicity program for the past year. He suggested four methods of financing the publicity program in the future. The fourth plan, which was approved by the Committee, was to interest financial organizations concerned with health programs. He stated that he had reasons to believe that he could secure funds which would make it possible to offer the newspaper service to all state papers, and especially those in the smaller towns where such a service would be most helpful. The plan accepted and the full report placed on file.

6. Report of the Treasurer of the Joint Committee. Dr. Warnshuis reported that the balance on hand December 30, 1930, was $2,111.85. Report accepted and placed on file.

7. On motion of Dr. Corbus, the Joint Committee approved the suggestion that in view of the fact that there is a surplus on hand in the Treasury, contributing members be asked to pay hereafter one-fourth of the amount previously paid in by the respective organizations, this sum to be expended for such purposes as may be approved by the Committee. Carried.

8. The next meeting of the Joint Committee will be held in Ann Arbor in May, subject to the call of the Secretary.

The meeting adjourned.

W. D. Henderson, Secretary.

COUNTY SOCIETIES

GRAND TRAVERSE-LEELANAU COUNTY

A special meeting of the Grand Traverse-Leelanau County Society was held at the home of Dr. J. W. Gauntlett on November 11, 1930. For the purpose of assisting in celebrating the sixtieth anniversary of his birth, the following members—Drs. F. Holdsworth, M. J. Holdsworth, Minor, Rinear, Sladek, Way, Swanton, Swartz, Kyselka, Thirlby, Brownson, Flood, Hastings, Huston, Kernkamp, and George Bovee—sat down to a bounteous turkey dinner with all the trimmings, with "Jimmy" in father's chair.

After dinner the guests proceeded upstairs, where the secretary read the replies of members and invited guests who were not able to be present.

Dr. Way invited the members of the society to a retiring president's dinner at the Park Place Hotel early in December.

A committee was appointed to investigate the cost of procuring memorial enlargements of Dr. Lawton and Dr. Munson to be placed in the hospital.

After an evening of refreshments, card playing, and general hilarity, and long distance 'phoning to Drs. Sturgis, Badgley, Garner, and Coller, all of whom were invited to the party but unable to attend, Jim's party was fittingly adjourned at 2:30 A. M.

E. F. Sladek, Secretary.

The annual meeting of the Grand Traverse-Leelanau County Medical Society was held at the Park Place Hotel, December 6, 1930.

Twenty members sat down to an elaborate dinner as guests of our retiring president, Dr. L. R. Way.

No definite progress was reported regarding the pictures of Dr. Munson and Lawton. In this connection, our Councillor, Dr. O. L. Ricker, who was present, suggested that we obtain a bronze bust of Dr. Munson, and that he was sure that we could have an official dedication of this bust by the Michigan State Medical Society.

Officers for 1931 were then elected: President, Dr. F. H. Kernkamp, Suttons Bay; vice president, Dr. R. R. Huston, Elk Rapids; secretary-treasurer, Dr. E. F. Sladek, Traverse City; Medico-Legal Committee, Dr. S. E. Smiseth, Suttons Bay.

Councillor Otto Ricker addressed the society, speaking of the difficulties of holding county society meetings as far as programs were concerned, and suggested that a group society be formed for the region meetings to be held every three months for scientific programs. Considerable discussion took place regarding the old Northwestern Michigan Clinical Association.

Mr. M. M. Rickett of the Petrolagar Laboratories showed a number of motion pictures: "Colles Fracture," "Hydrocele," and "Diverticulum of the Bladder."

The newly elected president invited the society to a wild duck dinner during the season next fall.

E. F. Sladek, Secretary.

The regular meeting of the Grand Traverse-Leelanau County Society was held January 12, 1931, with twenty members enjoying a dinner as guests of Dr. E. L. Thirlby at the Park Place Hotel.

Dr. E. L. Thirlby, reporting as a member of the picture committee, offered an enlarged photograph

of Dr. F. P. Lawton, which is to be placed in the doctor's room of the J. D. Munson Hospital. The motion—Minor-Inch—that the cost of the picture be taken from the society funds was carried.

Dr. Gauntlett was appointed a committee of one to obtain information regarding the cost of a memorial bust of Dr. J. D. Munson, with orders to report at the next meeting.

The following committee appointments were made:

Membership Committee—Drs. L. Swanton, chairman; H. B. Kyselka, M. J. Holdsworth.

Legislative Committee—F. G. Schwartz, chairman; Fred Murphy, R. R. Huston, Frank Holdsworth.

Program Committee—M. J. Holdsworth.

Through the courtesy of the Sharp and Dohme-Mulford Company and the Swan-Myers Company, the following interesting films were shown: "The Manufacture and Use of M. A. B.," "Poison Snakes of North America and the Preparation of Antivenin," and "Preparation of Pollen Extract for Hay Fever."

A rising vote of thanks was tendered to Dr. Thirlby for our dinner.

E. F. Sladek, Secretary.

GRATIOT-ISABELLA-CLARE COUNTY

The February meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Wright House, Alma, Thursday, February 19. Twelve members had dinner together at 7:00 P. M. Three members came in after dinner.

President Harrigan called the meeting to order. Minutes of the previous meeting were read and approved. Some communications were read by the Secretary.

In the absence of the Committee on Resolutions on the death of Doctor Bronstetter, President Harrigan described the doctor's last illness and spoke very feelingly of the personal loss his death caused to the members of this society.

The symposium on Pneumonia was then taken up, Dr. C. E. Burst discussing the diagnosis of the pneumonias and Dr. M. J. Budge the treatment of the same. These papers were discussed by every one present, after which President Harrigan on behalf of the Society thanked Doctor Burt and Doctor Budge for their papers.

The meeting was adjourned.

E. M. Highfield, M.D., Secretary.

MECOSTA COUNTY

The regular meeting of the Mecosta County Medical Society was held March 10, 1931.

After partaking of an excellent dinner given by the Mecosta County Dental Society at the Western Hotel, meeting was called to order by President MacIntyre.

Present: Drs. Miller, Rogers, Shank, Zetterstedt, Pryor, of Big Rapids; and Dr. Shepard of Remus of the Dental Society. Drs. MacIntyre, Yeo, Kelsey, Campbell, Grieve, Treynor, Dodge, Franklin, Kilmer, Soper, Clark, and Burkart of the Medical Society. Guest, Dr. V. H. Eman of Grand Rapids, Michigan.

Minutes of the last meeting were read and approved as read.

The secretary announced the death of Dr. C. W. Bunce of Coral, Michigan, on February 26, 1931, and advised that flowers and card of sympathy had been sent and acknowledged by the bereaved family. On motion of Dr. Grieve supported by Dr. Franklin, President MacIntyre appointed Drs. Grieve and Yeo as a committee to draft suitable resolutions on the death of Dr. Bunce.

President MacIntyre then turned the meeting over to President Rogers of the Dental Society, who in a few well-chosen remarks introduced the speaker of the evening, Dr. V. H. Eman of Grand Rapids, who gave a highly instructive and interesting illustrated demonstration of "The Relation of Dental Infection to Systemic Disease." The doctor said in brief, "A focus of infection has been defined as a site where germs against which the body has little or no local resistance are flourishing locally. Today, it is a well-established fact that dental foci of infection may have a direct bearing on the general condition of the body. It was not until twelve or fifteen years ago that any great attention was given to this important phase of medicine. Laboratory experiments and clinical observations carried on extensively in these few years have proven without question that toxic products, generated about the teeth and absorbed into the system through the blood and other channels, can cause disease in the remote parts of the body. Symptoms and general examination confirmed by X-ray plates and studies with the microscope have demonstrated the close relationship between the teeth, the tonsils, the sinuses and the rest of the body . . . ."

Discussion was very brief; the meeting was then turned back to President MacIntyre, and the regular order of business was taken up. The secretary read the application of Dr. Jerrold F. Stibal of Baldwin, Michigan, for admission to the Society, and on motion Dr. Stibal was admitted to membership in the Mecosta County Medical Society.

The Secretary then read several communications from the State Medical Society and Legislative Committee thereof, relative to proposed changes in the medical practice laws of Michigan. An animated discussion followed and was confined finally to sections 10 and 11 of the proposed changes. (See Files.) A vote taken on Section 10 which provides for the annual registration fee, was favorable. Section 11, dealing with "Specialists" was deemed not consistent, and unconstitutional and vote was against its adoption.

Dr. Yeo moved that a rising vote of thanks be given the speaker of the evening and the County Dental Society. Carried.

On motion the meeting adjourned.

John L. Burkart,
Secretary-Treasurer.

OAKLAND COUNTY

We have made arrangements with the Royal Oak Broadcasting Corporation, Station WEXL to give weekly talks by the members of the Oakland County Medical Society.

The talks will be given on Wednesday mornings at 10:30 A. M.

The first talk was given on March 11, the speaker being Dr. L. A. Farnham, Pontiac, president of the Oakland County Medical Society.

Later programs have been arranged as follows:

March 18—Colds and their Complications. Dr. J. S. Morrison, Royal Oak.

March 25—What's the Matter with My Nose and Throat? Dr. Frederick A. Baker, Pontiac.

April 1—Reasons for Periodic Health Examinations. Dr. Robert Baker, Pontiac.

April 8—Hygiene of the Heart. Dr. Frank A. Mercer, Pontiac.

April 15—Tuberculosis. Dr. George Sherman, Pontiac.

April 22—The Family Physician. Dr. Robert B. Hasner, Royal Oak.

April 29—Trench Mouth (Vincent's Infection). Dr. C. A. Neafie, Pontiac.

C. A. Neafie, *Secretary.*

NEWAYGO COUNTY

At the annual meeting of the Newaygo County Medical Society the following officers were elected for the ensuing year: President, Dr. Willis Geer-

ling, Fremont; vice president, Dr. O. C. Stryker, Fremont; secretary-treasurer, Dr. W. H. Barnum, Fremont; delegate to State Society, Dr. A. C. Thompsett, Hesperia; alternate, Dr. H. R. Moore, Newaygo.

W. H. Barnum, M.D., Secretary.

ST. CLAIR COUNTY

The regular meeting of the St. Clair County Medical Society was held at the Harrington Hotel, Port Huron, March 3. There were twenty members present.

Visitors included Drs. Learmont and Hart from Sanilac County; Dr. Webster, Marlotte; Dr. Walz, Capac, and Dr. Fluemer, Mt. Clemens.

The amendments to the Registration Act as submitted by Dr. Corbus, chairman of the Council, were approved by the Society. There was some doubt as to the advisability of the annual registration. The need for this was explained by our Councilor and when voted on was carried by a fair majority.

The paper of the evening was one on "Endocrinology," by Dr. Robert Moehlig of Detroit. It was an excellent résumé in which the author, by bringing our embryological development of the human system to the attention of his listeners, was able to present and demonstrate his further deductions on how certain diseases were caused by hypo- or hyperfunctioning of the glands. His paper was an unusually instructive one on a topic in which we were all intensely interested.

T. Heavenrich, Secretary.

SAGINAW COUNTY

At the annual meeting of the Saginaw County Medical Society held December 16, 1930, the following officers were elected for the year 1931:

President, A. E. Leitch; vice president, F. J. Cady; secretary and treasurer, W. K. Anderson; medico-legal advisor, W. J. O'Reilly; Board of Censors, H. J. Meyer (Chairman), J. W. Hutchison, and E. E. Curtis.

The February meeting of the Saginaw County Medical Society was held in the Board of Commerce Building, Tuesday evening, February 17. About fifty members were present.

Following approval of the minutes, Dr. J. H. Powers presented a summary of the Iowa Idea and made a motion that the president appoint a committee to investigate the possibilities of this plan. The president, Dr. Leitch, appointed the following committee: Dr. Campbell, Dr. Powers, and Dr. English.

Application for membership of Dr. C. W. Ely, having been passed by the Board of Censors, was voted on by the society and approved.

Other business and communications were dealt with.

Dr. Samuel Feinberg, a member of the teaching staff of Northwestern University Medical School, presented an interesting paper on "Allergy." Methods in the determination of the causes of asthma were given particular attention. Conservative methods of treatment were advocated and success in many of the coöperative patients was assured. No extravagant claims were made. Abundant discussion of the paper indicated that it was well received. The meeting was adjourned.

W. K. Anderson, Secretary.

WAYNE COUNTY

The four Detroit physicians, Drs. James E. Davis, Frank A. Kelly, Clarence I. Owen, and John T. Watkins, who were called to Lowell, Massachusetts, to testify in the Dugdale Law Suit, presented a report on this interesting case at the Wayne County Medical Society meeting of March 24.

In line with the established policy of arranging a social evening for the membership on all fifth Tuesdays, the Entertainment Committee had charge of the meeting of March 31. Dr. F. C. Coller of Ann Arbor gave a fine historical sketch of medicine in his address: "Divorce of Medicine and Surgery." A program of music was followed by a buffet supper and cards.

Dr. J. Burns Amberson of New York City will speak at the joint meeting of the Wayne County Medical Society and the Detroit Tuberculosis Society on April 7. Dr. Amberson's presence in Michigan is part of the April campaign against "Tuberculosis in the 'Teens."

Dr. J. E. Gordon of the Herman Kiefer Hospital, Detroit, will speak before the Medical Section of the Wayne County Medical Society on April 14. His subject will be "The Detroit Epidemic of Meningococcic Meningitis."

The Noon Day Study Club, composed of the physicians and surgeons below the age of forty, will present the program of the Wayne County Medical Society on Tuesday, April 21. It will consist of a symposium on "Empyema of the Chest."

The first annual joint meeting between the Detroit Bar Association and the Wayne County Medical Society will be held on Tuesday, May 5. A most interesting program is being arranged by the two committees representing these groups.

The Cafe of the Wayne County Medical Society served 2,062 luncheons and 204 dinners during the twenty-four working days of February, 1931. The cafe is increasing in popularity. A cordial invitation is extended to all our out-of-Detroit friends to avail themselves of the Cafe for luncheon purposes when they visit Detroit.

The Bulletin of the Wayne County Medical Society recently published the budget for 1931 as well as a chart showing the distribution of the 1931 anticipated income. The chart illustrated how the Budget Committee prophesied that the year's receipts of $38,925.00 would be disbursed, and also the ratio of disbursements per dollar.

The proposed amendments to the Medical Practice Law were published in The Bulletin of the Wayne County Medical Society of February 24. Ten reasons were given for the passage of this legislation. A copy of The Bulletin will be sent to any member of the Michigan State Medical Society who is interested.

The Public Health Committee of the Detroit Board of Commerce held a meeting with the Public Health Committee of the Wayne County Medical Society on February 17 to study the city's health report for the year 1930. This analysis will support the Board of Commerce's position as contestant for first place in the United States Chamber of Commerce Public Health Contest. Detroit won second place in the 1929 contest, and hopes to win first place for 1930.

Reprints on the Hoxsey "cancer cure" have been received from the Bureau of Investigation of the American Medical Association by the Wayne County Medical Society. They will be sent to any member of the Michigan State Medical Society upon request.

The bi-annual brochure of the American Medical Golfing Association, together with the annual financial statement, was mailed from Detroit to all active members during March. The next tournament will be held in Philadelphia, June 8, 1931, on the occasion of the annual meeting of the American Medical Association. The place will be the Aronimink Golf Club, famous for its perfect greens and sporty layout.

The Wayne County Medical Society Cafe was the scene of a recent meeting between representatives of various insurance companies and the Civic and Industrial Relations Committee of the State Society. The matter of physicians charging insurance com-

panies for the execution of blanks and reports was discussed at length by both sides. A second meeting with another group of insurance men will be held in the near future.

During the twenty-four working days of February, 1931, the executive office of the Wayne County Medical Society handled a total of 3,324 communications. Of these 784 were incoming and 2,540 were outgoing. This is an average of over 138 per day. The executive staff is now interviewing an average of thirty people per day personally, with an equal, if not a greater number over the telephone.

The roster of the Wayne County Medical Society was published in The Bulletins of March 10 and March 17.

Dr. J. M. Robb, President, and Dr. H. W. Plaggemeyer, President-Elect of the Wayne County Medical Society, have appeared before all the branch societies and other organizations affiliated with the county society during the month of March presenting addresses concerning the inner workings and activities of the organization. These six talks presented personal glimpses of what transpires "behind the scenes" of the Society.

Members of the Michigan State Medical Society are cordially invited to the Postgraduate Clinical Conferences on Communicable Diseases held at Herman Kiefer Hospital, Detroit, every Wednesday at 10:00 A. M. These clinics have been arranged by the Public Health Committee of the Wayne County Medical Society in conjunction with the Urological, the Dermatological and the Tuberculosis Societies of Detroit. Large numbers of doctors are taking advantage of these conferences. All men who register receive a reprint of the lecture at a later date. The April program is as follows:

April 1—Clinical Symptoms of Tuberculosis
Stuart Pritchard, M.D., Director, W. K. Kellogg Foundation, Battle Creek, Michigan.

April 8—Tuberculosis of the Adult
Richard P. Morgan, M.D., Tuberculosis Division, Herman Kiefer Hospital, Detroit.

April 15—Tuberculosis of Childhood
Henry D. Chadwick, M.D., Tuberculosis Controller, Herman Kiefer Hospital, Detroit.

April 22—The Value of Surgery in Tuberculosis
E. J. O'Brien, M.D., Tuberculosis Division, Herman Kiefer Hospital, Detroit.

April 29—Sanatorium Care of Cases of Tuberculosis
Bruce Douglas, M.D., Superintendent, Wm. H. Maybury Sanatorium, Northville, Michigan.

JACKSON COUNTY

On Tuesday evening, March 17, the Jackson County Medical Society met in the Green Room of the Elks Temple for their regular monthly meeting. After the dinner the members retired to the Memorial room, where they heard a very interesting talk on some legal phases of the Medical Practice Act by Mr. Wirt King, local attorney. He went over the legal requirements for the practice of medicine, surgery and midwifery, and cited some of the rulings of the State Supreme Court in some questions which have arisen out of this act. A general discussion followed.

Dr. John Sundwall, professor of hygiene at the University of Michigan, came as a representative of the State Legislative Committee to discuss some of the bills which have been and which will be introduced at the present session of the legislature. The secretary read a letter from Dr. F. C. Warnshuis supporting the amendments to the Medical Practice Act. A general discussion followed. In view of the fact that the Legislative Committee of the State Medical Society, according to Dr. Sundwall, has been considering and fostering a bill which would place the licensing of physicians as well as all other professions in the hands of the Department of Education, it seemed to the Jackson County Society inadvisable to endorse the amendments to the Medical Practice Act as introduced by the State Board of Registration in Medicine at this time. The plan as outlined by Dr. Sundwall seemed to the Jackson County Society to have considerable merit and in order not to embarrass this movement it was moved by Dr. Cooley and seconded by Dr. Porter that the bill not be endorsed. Motion was carried.

It was moved by Dr. O'Meara that the names of the illegal practitioners in the county along with such other information as is available be given to Dr. J. E. McIntyre of Lansing and to act on his advice. Motion was carried.

Dr. Riley moved that the Society have a dinner Friday night, March 20, at which about twenty members of the society should be present and to which Dr. Sundwall and a few members of the laity should be invited to present to the local representatives and senator our views on some legislative matters. Motion was carried. A committee composed of Drs. George Pray, Hurley and Schaeffer were appointed to arrange the details.

On motion of Dr. O'Meara and seconded by Dr. Clark the Society voted to send ten dollars to the Pershing Memorial Fund in Paris.

The meeting then adjourned. Attendance, forty-four.

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, President, Jackson, Mich.
MRS. W. L. FINTON, Secretary, Jackson, Mich.

Mrs. Harris, our state president, writes from Florida as follows:

The next National Convention of the Auxiliary occurs in Philadelphia June 8-12. It is advisable to begin now to know who will attend the meeting, so we may select our delegates and alternates. All national officers, chairmen of standing committees and state presidents are members ex-officio of the National Board of Directors and should not be sent as delegates. Regarding payment of dues, each society has received a letter notifying them of the close of our fiscal year. "Representation at the Convention shall be based on the amount of dues received before March 31." For other information regarding our basis of representation please read again your copy of the Constitution and By-Laws. At a meeting of the Board of Directors in Chicago, November 14, 1930, the national president was authorized to make such adjustment as might be necessary to enable each state to pay its national dues at the close of its fiscal year without losing representation in the national convention.

WAYNE COUNTY MEDICAL AUXILIARY

The women's auxiliary to the Wayne County Medical Society will meet at 3 o'clock Tuesday, March 10, in the Club rooms. A musical program will be presented by Mrs. Lois Johnson Gilchrest, soprano; Mrs. Harry H. Jackson, contralto, and Mrs. Alfred H. Whittaker, pianist. Following the musicale there will be a meeting of the club.

HYGEIA

Mrs. H. G. Bartlett, 1510 Lake Shore Drive, St. Joseph, writes as follows concerning subscriptions to Hygeia:

We are asked to put on a ten week subscription campaign for "Hygeia" March 1 to May 15, and I would like very much to get at least 100 to subscribe for it. That would bring into our state work help in the way of finance. Subscription price $3.00 per year; two years for $5.00.

We would ask that the doctors who wish to subscribe or to renew, do it during this next ten weeks. I shall be glad to receive the orders and will guarantee delivery.

(Mrs. P. R.) Louise T. Urmston,
Publicity Chairman.

THE DOCTOR'S LIBRARY

OPERATIVE OBSTETRICS IN THE MANIKIN. Charles B. Reed, Associate Professor of Obstetrics at Northwestern Medical School, Chicago. P. Blakiston's Son and Company, Philadelphia, Pa.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 10, No. 6. Index Number. (Philadelphia Number, December, 1930.) 316 pages with 95 illustrations. Per Clinic year (February, 1930, to December, 1930). Paper $12.00; Cloth $16.00. Philadelphia and London. W. B. Saunders Company, 1930.

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 14, No. 4. (Philadelphia Number, January, 1931.) Octavo of 240 pages with 47 illustrations. Per Clinic year, July, 1930, to May, 1931. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1931.

CLIO MEDICA. A series of primers on the History of Medicine. Editor: E. B. Krumbhaar, M.D. Physiology by John F. Fulton, M.D.

In the little volumes of which the present is one of the series we see the muse of medical history at her best. This little work on The History of Physiology is interestingly written, chock full of information on the subject and very attractively gotten up from the viewpoint of typography. The subjects emphasized are, The Circulation of the Blood, Respiration, Digestion, with a small chapter on the ancients, including Aristotle and Galen, and a chapter on Physiology in the Nineteenth Century and the Rise of the Teaching Laboratories. There is a valuable bibliography of works pertaining to the subject for those who would peruse it further.

TRAUMATOTHERAPY. John J. Moorhead, B.Sc., M.D., F.A.C.S., Professor of Surgery and Director, Dept. of Traumatic Surgery, New York Post-Graduate Medical School and Hospital; Surgical Director, Reconstruction Hospital Unit; Colonel Medical Officers Reserve Corps, U. S. Army, 574 pages with 625 illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, $7.00.

To quote from the author's preface, "There is no type of surgery to-day more universal than accident surgery." This fact itself is justification for the emphasis placed upon this particular field of surgical practice. In accident surgery the diagnosis is for the most part easily made from the history as well as from the inspection of the injured parts. This being the case the technic of treatment becomes of paramount importance. The work includes the treatment of wounds of the soft parts, best methods of reducing dislocations, fractures, injuries of closed cavities, traumatic neuroses, plastic surgery applied to both bones and soft parts, standard procedures in first aid and many other subjects. The work is well illustrated both by photographs and diagrams. It can be confidently recommended not only to the surgeon but likewise to the physician in general practice. The work is well indexed for ready reference, an important factor in a book of this kind.

THERAPEUTICS MATERIA MEDICA AND PHARMACY WITH SPECIAL THERAPEUTICS OF DISEASES AND SYMPTOMS. The physiological and therapeutical action of drugs. The modern Materia Medica, official and practical pharmacy, prescription writing, and antidotal and antagonistic treatment of poisoning. S. O. L. Potter, A.M., M.D., M.R.C.P., London. Fifteenth edition revised by R. J. E. Scott, M.A., M.D., Fellow of the New York Academy of Medicine. Price $8.50. P. Blakiston's Son and Company, Philadelphia, Pa.

When a medical book has reached the fifteenth edition it scarcely requires the description that is usually accorded a new work. The title presents fairly the scope covered by the book, which is encyclopedic in its treatment of the various phases of the subject, while the general plan that is so well known has been followed. There has been a marked effort towards simplification of therapeutics, which is limited largely to medicinal agents. Information in concise form is given concerning the physical properties and chemical composition of drugs and also their doses, preparations and incompatibilities. To facilitate its use as a reference work it is well indexed not only in the usual way but there is a thumb index as well.

PRACTICAL RADIATION THERAPY. Ira I. Kaplan, B.S., M.D., Director, Division of Cancer, Department of Hospitals, New York City; Attending Radiation Therapist, Bellevue Hospital: with a special chapter on, APPLIED X-RAY PHYSICS, by Carl B. Braestrup, B.Sc., P.E., Radiation Physicist, Division of Cancer, Department of Hospitals, Physicist to Mt. Sinai Hospital, New York City. 354 pages with 227 illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, $6.00.

This book deals with the practical side of radiation therapy based upon the author's experience. Only the author's methods are described and no comparison is made with those used by other radiologists. About one-fourth of the book is devoted to a discussion of the production of X-rays, radium and radium emanation and applied X-ray physics. The discussion of dosage is made as simple as possible, but it is admitted that it is still a complicated and disputed question. The author uses a dosage measurement based on the Holfelder biological unit. The remainder of the book is devoted to the practical application of radiation to various diseases. Only X-ray and radium therapy is discussed. There is, however, a chapter on endothermy (electrosurgery) since it is very often used in connection with radiation therapy. The book contains dosage tables, charts and many illustrations.

MODERN SURGERY. J. Chalmers DaCosta, M.D., LL.D., F.A.C.S.; Samuel D. Gross, Professor of Surgery Jefferson Medical College, Surgeon to Jefferson Medical College Hospital, Consulting Surgeon to the Philadelphia General Hospital, St. Joseph's Hospital and Misericordia Hospital, Philadelphia. Assisted by Benjamin Lipshutz, M.D., F.A.C.S., Surgeon to the Mt. Sinai Hospital; Associate in Neuro-anatomy, Jefferson Medical College. Tenth Edition, Revised and Reset. 1404 pages with 1050 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, $10.00.

This well known work has been entirely re-written so that it is in reality a new book. It goes without saying that the necessary new material has been added to make it as complete and authoritative as a single volume work on any medical or surgical subject can be. Among the new subjects included in this tenth revision are chemotherapeutic methods as well as the new most recent methods of treatment of wounds, contusions and burns. We have also a presentation of the injection method of treating varicose veins. There has been a radical revision of the subject of abdominal surgery, including the most recent operative technic. The subject of anesthesia, always important in a work of this nature, has been fully discussed, including both general and local anesthesia. The urologist will find a satisfactory chapter including the new methods of managing prostatic conditions, genital tuberculosis and neoplasms. The section on surgical tuberculosis has been subject to a thorough revision. Fractures and dislocations and bone disease are discussed in a thorough and practical way. The illustrations are all that can be desired. The volume is well indexed, which of itself makes for ready reference. The work cannot be too strongly recommended to the practitioners, as well as to the surgeon desirous of a complete practical single volume treatment of the subject.

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CONTENTS

Observations on Acute Appendicitis: Factors Influencing Mortality. Frederick A. Coller, M.D., and Colin C. McRae, M.D. 319
Roentgen Findings as Evidence in Medico-Legal Cases. William A. Evans, M.D. 329
Women in Medicine. Susanne Sanderson, M.D. 339
The Prevention and Treatment of Whooping-Cough. J. C. S. Battley, M.D. (Tor.) 344
Chronic Nephritis in Children. M. Cooperstock, M.D. 350
Subarachnoid Hemorrhage Occurring in Syphilis. F. G. Lindemulder, M.D. 354
Gall Bladder Diseases, Diagnosis and Indications for Operation. Roy D. McClure, M.D. 356
Skin Cancer and Its Prophylaxis. R. A. C. Wollenberg, M.D., F.A.C.P. 360
The Treatment of Pollen Asthma, Hay Fever and Pollen Dermatitis Based on a Pollen Survey of Detroit. George L. Waldbott, M.D., and W. C. Steere, B.A. 367
Report of Case of Tuberculoma of Cerebellum. Faith F. Hardy, A.B., M.D. 372
Famous Men in Medical History: John Morgan. Burton F. Barney, M.D. 374
Michigan's Department of Health. C. C. Slemons, M.D. 378
Colonel Bell Burr, A.M., M.D., F.A.C.P. H. E. Randall, M.D. 381
Courses for Graduates, Detroit, June 15 to 27, 1931 384
Editorials:
Post-Graduate Medicine 385
Nephrosis 385
The Passing of Dr. Burr 387
Ultra-Refinements in Diagnosis 387
Medical Insurance 388
Insurance Certificates 388
Medical Knowledge Grows 389
An Attempt to Legalize So-Called "Schools" 389
The Medical History of Michigan 390
Editorial Notes 390
Communications 392
General News and Announcements 393
Society Activity 395
County Societies 405
Woman's Auxiliary 406
Medical Economics:
The Private Group Clinic 406
The Doctor's Library 407

OBSERVATIONS ON ACUTE APPENDICITIS: FACTORS INFLUENCING MORTALITY*

FREDERICK A. COLLER, M.D.,† and COLIN C. McRAE, M.D.
ANN ARBOR, MICHIGAN

Acute appendicitis is the commonest of acute abdominal lesions and its immediate and remote mortality exceeds that of any other acute disease of any other abdominal organ or group of organs. In spite of the fact that its pathology, symptoms and treatment are well established, its recorded mortality has actually increased during the past twenty years. The statistics of the Metropolitan Life Insurance Company[1] show their mortality in 1911 was 10.9 per cent per 100,000 and in 1928 it was 13.7 per cent. Frederick L. Hoffman,[2] statistician of the Prudential Insurance Company, in a study of the mortality from appendicitis in sixty cities shows the death rate per 100,000 has increased from 13.3 per cent in 1910 to 17.6 per cent in 1925. In the United States in 1926 the deaths from appendicitis were 17,335, and from general peritonitis 12,655. In Michigan in 1928, the deaths from appendicitis were 746 and from peritonitis 83. In the light of this high total mortality, and especially considering a rising mortality rate, it seems worth while to

*From the Department of Surgery, University of Michigan. Read before the Michigan State Medical Society, Benton Harbor, Mich. September 16, 1930.

†Professor of Surgery, University of Michigan.

again consider some of the well established facts concerning acute appendicitis. In order to examine the character of the treatment given in our clinic the cases of acute appendicitis treated in the University Hospital between September 1, 1925, and March 1, 1930, 392 in number, were analyzed with the special view of determining the cause of the mortality and how it might have been lowered. Only definite clinically and pathologically proven cases were included in the study. The material falls into two distinct groups. First, a group composed of University students who are referred to us by their Health Service and who are usually seen early in the course of the disease; second, a group composed of clinic patients who are referred to us from distant points and who are usually seen in late stages of the disease. The entire group does not represent a fair cross-section of the occurrence of appendicitis, as nearly a third of them are drawn from a large University population.

TABLE I

AVERAGE TIME ELAPSING BEFORE OPERATION IN GROUPS

	Number	Time	Mortality No.	Mortality %
Students Male Female	 100 28	30 Hours	2	1.55
Others Male Female	 178 86	9.1 Days	13	4.9
Fatal Cases	15	4.7 Days		

This group represents what would be encountered in private practice among a well educated clientele. The groups are shown in Table I, together with the time elapsing between onset of disease and operation, and the mortality in each group. It is interesting to note the great difference between the time elapsing between onset of disease in the two groups, in one instance 30 hours and in another instance 9.1 days. The students are cared for by a keen medical personnel, who send the patient for surgical treatment as soon as appendicitis is suspected, which accounts in part for the earlier operation in this group. But an average delay of 30 hours is far too long for ideal treatment, and, since little time has been lost by the medical and surgical staff, the rest of the delay, at least one day, is due to procrastination by the patient. One must then deduce that a well educated class of individuals who presumably know of appendicitis, its dangers and some of its symptoms will bear the discomfort and pain of an attack of acute appendicitis for an average of one day before seeking relief. No economic aspect is present, since all students are cared for by the Health Service without additional charge. Therefore ignorance of the disease or fear of treatment play the important rôle in causing this delay. The delay of over nine days in the non-student group is probably due to many factors. Certainly, in many instances mistaken diagnosis plays a part, but many of these patients cannot afford to stop work and do not seek medical advice until the disease has reached an incapacitating or terminal stage. The high percentage of abscess, often of several weeks' duration, brings up the time element greatly.

TABLE II

COMPARISON OF NUMBER, MORTALITY AND AGE

Age	No. of Patients	Male	Female	Mortality No.	Mortality %
1-10	27	17	10	2	7.4
11-20	122	77	45	1	.8
21-30	157	122	35	6	3.8
31-40	43	30	13	4	9.3
41-50	28	21	7	1	3.5
51-60	6	6	0	0	0
61-70	8	5	3	1	1.2
71-80	1	1	0	0	0
Total	392	279	113	15	3.8

In Table II is shown the number of patients occurring in each age group with the mortality by group. It shows that the great majority, 68%, occur between the ages of 10 and 30, but also emphasizes the fact that no age is free from chance of the disease. The relatively high mortality in the first decade is a common finding in most clinics. The diagnosis is harder to make in the young, especially in infants, because of their inability to coöperate, and an inadequate history may cause delay and wrong treatment. There is a prevalent fallacious idea among the laity that abdominal pain is a normal occurrence in the young and that it only demands castor oil for its cure.

Large doses of purges were nearly uniformly given to the patients in this decade, the climax being reached in a child aged 4, who was given one pint of castor oil in two days. Needless to say, she died a few hours after admission. Skilled advice is only asked after the failure of drastic purges, with the result that all of Nature's attempts at localizing and walling off the infection have been frustrated before intelligent treatment is instituted. The higher mortality in the fourth decade is not usual, and is an abnormal showing such as will occur in an analysis of such a small number of cases. The low mortality from ages 40 to 80 is unusual, and may be due to the fact that many of them were well localized abscesses before we saw them and recognizing the dangers attendant in appendicitis occurring past middle life, due to lowered resistance to infection, they were handled with great gentleness and conservatism.

TABLE III

ANALYSIS OF GROUP ACCORDING TO EXTENT OF INFECTION

	Number	Drain	Mortality No.	Mortality %
Acute Appendicitis	233	25	1	.43
Peritonitis Local	85	85	1	1.17
General	19	19	10	52.6
Abscess	55	55	3	5.45

The local conditions found at operation are shown in Table III. No treatment is more brilliant than the removal of the appendix while the infection is still confined to this organ and there can be no dispute as to its advisability. The only death occurring after appendectomy for this type of case was from pulmonary embolism after the patient was ready to leave the hospital. It will be noted that a number of this group were drained, perhaps unnecessarily, but with a constantly changing staff of younger surgeons we feel it wiser to urge too frequent rather than too infrequent drainage. They are told to follow the ancient surgical dictum of "when in doubt, drain," and I believe it a safe rule for those who have doubt. Certainly, in our experience, its advantages more than counterbalance its drawbacks.

After the infection has extended to the structure immediately adjacent to the appendix but without involving the general peritoneal cavity such as are found early after gangrene and perforation, the mortality was still low. The only death in this class occurred in a patient with far advanced pulmonary tuberculosis, who died a few hours following appendectomy under local anesthesia. All of these patients were drained, although many of them might well have taken care of this local infection without drainage. The 19 cases of general peritonitis showed an appalling mortality of 52.6 per cent, which is much higher than the general mortality rate of this condition. One patient had gangrene of the entire ileum associated with the severe general peritonitis. Interestingly enough, this patient had had an attack with abscess formation six months ago, with drainage of the abscess. He had been advised to have an appendectomy in two months but had neglected to do so. The next attack killed. Three other cases were moribund on admission to the hospital, dying within a few hours. Another patient had far advanced pulmonary tuberculosis associated with general peritonitis and died a respiratory death one week after operation. Of the remaining five patients, one died of pneumonia in two weeks and the other four died a typical death due to peritonitis and intestinal obstruction. The first five patients in this mortality group were in all probability beyond reach of any treatment, but the last five would have had a much better chance if operation had been delayed and the patients given the Ochsner treatment as discussed later.

In Table IV one notes the greatest mortality in the patients who are operated upon between the third and sixth day of the disease. The resistance of the patient is at its lowest ebb, natural immunity is exhausted and acquired immunity is not yet established. Operative trauma and the opening up of fresh tissue surfaces to infection promote the absorption of toxins and spread of infection at a time when the patient is least able to deal with them. The condition may well be compared to an acute cellulitis that formerly would have been drained but which we now treat by conservative measures. Fifty-five patients presented well walled off abscesses and were treated with a mortality of 5.45%, illustrating the well known fact that the mortality decreases as the history lengthens beyond the three to

TABLE IV

MORTALITY, HOSPITAL DAYS AND COMPLICATIONS ACCORDING TO LENGTH OF DISEASE BEFORE OPERATION

Time Before Entrance	Number	Hospital Days	Mortality No.	Mortality %	Post-operative Complications
To 12 Hours	74	8	1	1.35	6
12 to 24 Hours	100	11	2	2	8
2 to 3 Days	106	14	4	3.7	16
4 to 5 Days	41	16	4	9.7	8
6 Days +	71	24	4	5.6	17

five day period. With the knowledge that the infection is well walled off, operation was always delayed in this group until the patient's fluids were restored and his metabolism brought to normal by the use of glucose. The operation consisted in drainage of the abscess and appendectomy if this were feasible. Our instructions to the staff are to remove the appendix if this can be done without breaking up the wall of the abscess. The more experienced surgeon will safely remove more appendices from abscesses than should be attempted by the less experienced operator. In this group the appendix was removed in forty instances and left in fifteen instances. These patients in whom the appendices are left are instructed to return in three months for appendectomy. The importance of this advice is borne out by the fact that three patients in this group had had appendiceal abscesses drained on previous occasions. One case, previously cited, died of gangrene of the intestine accompanying the second attack. Another case, a girl aged 12, had had three previous attacks with abscess, each time drained, before the fourth attack brought her to us for appendectomy. It is our belief that the patient who has had an abscess drained is far more likely to subsequent attacks than any other group of people. The surgeon must insist upon their return for appendectomy at some fixed time or be prepared to face other attacks.

The duration of the attack, as shown in Table IV, brings out graphically the rising mortality up to the fifth day of the disease. The mortality on the first day is very low. Of the three deaths in this time one was from pulmonary embolus and one from pulmonary tuberculosis, having only one death due directly to the disease. The steadily rising mortality in the next four days is due to the increasing frequency of peritonitis as the disease progresses beyond the appendix, and illustrates the importance of operation during the early stages of the disease while the infection is still confined to the appendix. The lessened mortality beyond six days is striking and is due to the rising resistance of the patient and the walling off of the infection.

The importance of early operation from the economic viewpoint is well shown when one notes the constantly increasing number of days in the hospital with each day of delay in treatment. If operation takes place in the first 42 hours of the disease the hospital stay is eight days, with a steady rise in hospital days to 24 for those operated upon after six days. The increasing chance for post-operative complications is shown graphically with the attendant increasing disability and chance for mortality.

DIAGNOSIS

A history of previous attacks was given in 147 (37.5%) cases, confirming the fact that those who have had an attack of appendicitis are likely to have more attacks. It also shows that first attacks may be serious or fatal. The one constant symptom was abdominal pain, which also was the first to appear. The location of the pain was variable, usually being at first general or epigastric and colicky in nature. Local tenderness was elicited in every case, the location of the tenderness varying with the location of the appendix, and was found to be the most constant and definite sign of the disease. No attempt was made in this particular analysis to evaluate the commonly known symptoms in relation to the pathological condition present. In 1903 Van Zwalenberg[3] drew our attention to the importance of hydromechanics and the ball valve fecolith as an etiological factor in the production of acute appendicitis and if we

accept this and discard infection as the primary step in the initiation of the disease, the early diagnosis becomes clearer. The general teaching has been that infection accounted for all of the symptoms and many textbooks yet give as the symptoms of acute appendicitis many that are due to attendant peritonitis. Van Zwalenberg[4] says, "The initial step is the formation of a closed pouch by the lodging of a plug of fecal matter, a fecolith or debris behind a narrowing in the lumen of the appendix. . . . Being a mucus pouch there is always some secretion and soon the pouch is filled with fluid. The active peristalsis of the appendix adds its pressure. It takes probably no more than 10 mm. of pressure to produce some interference with the venous and lymphatic flow in the mucosa and submucosa. This intra-appendicular hydraulic pressure, slowing and later arresting the venous and lymphatic outflow, causing effusion from the capillaries with consequent edema into the tissues, results in distending the lumen of the appendix, opening all pockets in the mucosa and allowing infection to take place." If one will visualize this as a type of acute intestinal obstruction, the earlier diagnosis becomes easier and the important early symptoms are capable of explanation. The afebrile onset, with general crampy pain followed by nausea with or without vomiting, represents the period when we are dealing with appendiceal obstruction; later, as fever and leukocytosis appear, with shifting of discomfort to the right iliac region, the obstruction is complicated, and later tension relieved, by infection and vascular damage. The symptoms then are of some form or stage of peritonitis. It is important to emphasize emphatically this afebrile stage of appendiceal obstruction and its importance to early diagnosis. If we wait for definite signs of infection we are waiting for peritonitis. A history of abdominal pain with localized tenderness over the appendix means acute appendicitis and should be acted upon at this time.

In our experience, the commonest cause of delay on the part of the patient, and occasionally by the physician, is the assumption that the eating of certain foods will at times cause attacks of abdominal pain that will be relieved when the offending food has been vigorously expelled by a purge. It is no exaggeration that fully half the students seen with attacks of acute appendicitis ascribed their attack to eating "hot dog" sandwiches. Lay diagnosis of "ptomaine poisoning" run the hot dog a close second as cause for delay. We must emphasize the rarity of food poisonings and the fact that no food, however exotic, will give attacks of acute abdominal pain. The diagnosis of "intestinal flu" is also a very common term with which the correct diagnosis of acute appendicitis is obscured until peritonitis intervenes. We have never seen a case of this so-called "intestinal flu," and, granting that the unknown etiological factor of influenza may cause an enteritis, it probably would give signs and symptoms more characteristic of enteritis as we know it than of acute appendicitis. The delusion that the local application of cold by means of the ice bag has a favorable effect on the disease is also a cause of much procrastination. We know of no evidence that this procedure does anything except cause anesthesia and delay. A patient may get well with "ice bag" treatment, but it is not because of but in spite of this treatment.

Chills occurred in thirteen cases, ten of whom had general peritonitis when the chill happened. The other three were cases of streptococcus infections of the appendix. If a chill is present it is strong presumptive evidence either that peritonitis is present or the infection not in the appendix, but somewhere else in the body. Leukocytosis was always found, except in one instance of an overwhelming generalized peritonitis with a leukopenia. The polymorphonuclear leukocytosis especially has been in general a valuable finding as showing the extent of infection and the resistance of the patient and the progress of infection. Without discussing the signs and symptoms at greater length it seems clear that much delay in making the early diagnosis is caused by the idea that the signs and symptoms of early peritonitis are those of acute appendicitis and in waiting until they appear before taking steps to initiate surgical treatment.

Complications are shown in Table V as they occur in patients grouped according to duration of the disease. The local preoperative complications have been briefly discussed, but one sees graphically the rapid increase of peritoneal infection after the first day of the disease, the great incidence of general peritonitis between the third and sixth days, and the great incidence of abscess after this time. The increasing number of

TABLE V

PRE- AND POST-OPERATIVE COMPLICATIONS WITH DURATION OF DISEASE

Time Before Entrance	Number	Appendicitis	Pre-operative			Post-operative									
			Local Peritonitis	General Peritonitis	Appendix Abscess	Pelvic Abscess	Lung Complications	Obstruction	Wound Infection	Subphrenic Abscess	Fecal Fistula	Abortion	Gangrene Intestine	Pulmonary Embolus	Pylephlebitis
To 12 Hours	74	68	6	0	0	2	1	1	1					1	
12 to 24 Hours	100	72	26	2	0	1	1		4				1		
2 to 3 Days	106	55	41	7	3	4	4	4	+	1	2	1			
4 to 5 Days	41	15	7	5	14	3	1	1	+	1	2				
6 Days +	71	23	5	5	38	2	2	3	+		10				1
Total	392	233	85	19	55	12	9	9		2	14	1	1	1	1

complications with each day of the disease also can be noted. Of all complications, the most important are those grouped here under the preoperative group and are those due to delay in proper treatment. It is difficult to make an accurate separation of these local complications, and these figures are undoubtedly somewhat in error, but they probably are relatively true.

Pelvic abscess requiring evacuation occurred twelve times; many others showed signs of pelvic infection but cleared up with conservative treatment. The average length of time between operation and development of fluctuant abscess was eight days. Rise in temperature, frequency and burning urination, difficulty in defecation with diarrhea in about half the cases called attention to the presence of the abscess. A relaxed rectal sphincter was invariably present when the abscess was grossly in evidence. Perhaps some of these may be prevented, and it is our present routine to insert a catheter to the pelvis connected with an aspirator while the appendectomy is being done in all cases with free fluid of any sort, although many favor drainage by the rectal or vaginal routes. All of these abscesses were drained by the suprapubic route, with favorable outcome.

The pulmonary complications were extraordinarily few. Two were exacerbations of pulmonary tuberculosis, one a massive collapse of the right lung, one pleural effusion. The other five were broncho-pneumonia. There was one fatality in a patient with general peritonitis, and deaths in both patients with advanced pulmonary tuberculosis.

Adynamic ileus is generally associated with peritonitis and is the result of the infection. This type of obstruction is not considered a complication but as an integral feature of peritonitis. Mechanical obstruction occurred in nine patients, always remotely due to infection. It usually was found to be obstruction of the low ileum in that part lying in the right side of the pelvis. Two of these resulted fatally, both in patients with appendix abscesses. A very free use of enterostomy was made in treating both the adynamic and mechanical obtions and we feel that our experience with it has led to a more frequent and earlier use of this procedure. To get the best results one must do it before marked distention has led to complete paralysis of the bowel. Its success depends entirely on the power of the musculature of the intestines to carry on peristalsis.

A sub-diaphragmatic abscess was present in two patients, both of whom recovered following drainage by the retroperitoneal route.

There were fourteen cases who developed a fecal fistula after operation, most of them occurring after drainage of an appendix abscess. All of them closed spontaneously during the convalescence without delaying it. In some patients it has been of great benefit in reducing distention and has drained the intestine as well or better than an enterostomy. In our experience all of them will close spontaneously unless a large rent has been made in the cecum, or unless one of the granulomas is an infecting agent.

Four patients were in the last four months of pregnancy and abortion occurred

TABLE VI

TABLE OF MORTALITY

	Diagnosis	Days of Disease	Cause of Death	Day of Death	Remarks
1	Appendicitis Local Peritonitis	6 Hours	Pulmonary Embolus	15	Vascular Accident
2	Same	1	Advanced Pulmonary Tuberculosis	1 Hour	
3	Appendix Abscess	7	Intestinal Obstruction	10 Weeks	
4	Same	18	Hepatic Abscess Pylephlebitis	10 Weeks	
5	Same	8	Intestinal Obstruction	8	
6	General Peritonitis	5	Bilateral Pneumonia	14	Due to Pulmonary Complications Only
7	Same	1	Gangrene Ileum	1	Hopeless
8	Same	4	Advanced Pulmonary Tuberculosis	7	Hopeless
9	Same	4	Peritonitis	1	Moribund
10	Same	5	Peritonitis	1	Moribund
11	Same	2	Peritonitis and Obstruction	8	
12	Same	3	Same	3	
13	Same	7	Same	1	Moribund
14	Same	2	Same	26	
15	Same	3	Same	13	

in one with a severe peritonitis. The other patients ran uneventful courses. It is worth mentioning that walling off did not and cannot occur in pregnancy with the uterus up to the umbilicus or higher. This makes early diagnosis and early treatment imperative if one wishes to prevent peritonitis as a complacation of pregnancy.

One patient, a woman of 50 who had an abscess of eighteen days' duration, had pyelophlebitis and multiple small liver abscesses. She slowly grew weaker and died of this complication.

TREATMENT

In the presence of a preoperative diagnosis of acute appendicitis the incision is always made lateral to the point of tenderness, a muscle splitting like that of Davis or an oblique muscle cutting incision like that of McBurney. The approach is made from the lateral aspect of the peritoneal cavity rather than from its anterior aspect. This enables the appendix to be examined and removed, abscesses evacuated and drains to be placed without handling or contaminating small intestine. No exploration can be undertaken through this incision, but in the presence of acute infection none should be attempted. If a mistake in diagnosis has been made, a new, properly placed incision can be made without detriment to the patient. If drains are necessary, the wound is very loosely closed around them with a minimal number of sutures. With drainage of abscesses drains are allowed to remain until general evidence of infection is absent, and are then withdrawn slowly. We cannot agree with routine removal of drains on any certain post-operative day. Appendectomy is the only treatment for acute appendicitis and should be urged and done on every case except in the presence of a grave constitutional condition. To advise waiting for an interval operation is to court disaster and is contributory negligence. In the presence of early localized peritonitis, operation should still be done, but with a minimum of trauma. After the disease has lasted forty hours, or earlier when purges have been used with signs of a spreading peritonitis supervening, delayed treatment should be seriously considered. Positive evidence of the value of this procedure is not found in the statistics

given in this paper, but, quite the contrary, the bad results we have had with cases of this type have forced us to adopt the delayed treatment for this grave condition. Ochsner[5] in 1902 first suggested the value of delaying operation in this group of cases with spreading infection. Sherrin[6] used this type of treatment in the London Hospital for twenty years. Guerry,[7] whose statistics showing a death rate of 1.6% for acute diffuse peritonitis are unexcelled, advocates the delayed treatment. Love[8] gives statistics from the large London hospitals showing 3.8% mortality for delayed operation and 6.7% for immediate operation. Deaver[9] advocated delayed treatment for all cases with diffusing appendicitis.

One hesitates to advise delay in operating for any phase of acute appendicitis since it will be misconstrued to mean the adoption of medical treatment. We must recognize that every case of acute appendicitis of any sort must be taken for surgical treatment to a hospital and placed in the care of a surgeon. The delayed treatment is surgical treatment and the operation is only deferred. It consists of the time honored regime of nothing by mouth, at least five liters of saline and glucose solution, Fowler's position, heat applied to abdomen, morphia used very sparingly. Many will respond to this regime but after twenty-four hours delay under this treatment some will require operation. If the pulse and temperature do not fall and the patient complains of increasing pain and distention, operation may be done. The relief of tension by a suprapubic drain, an enterostomy or cecostomy for relief of tension and a non-traumatic appendectomy can be done as good judgment indicates. As delayed treatment is carried on, localized abscesses may develop, necessitating drainage. If the patient is carried by the phase of acute spreading infection the appendix must be removed at some later date, not longer than three months. The treatment of abscess has been discussed previously but it can be safely reiterated that there is no need of urgent operation, and the patient can be brought up to a good surgical risk before the abscess is drained. If the appendix is not removed, it must be done in three months.

MORTALITY

Fatal cases are listed in Table VI, all of whom have been discussed. Cases No. 11, 12, 14, and 15 might have been saved if the delayed treatment had been carried out.

SUMMARY

A group of cases of acute appendicitis is analyzed showing a general mortality of 3.8 per cent. In the student group the mortality is 1.55 per cent. The disease lasted on an average of one day in this group before they called for surgical help. Fallacious diagnosis of food poisoning and "intestinal flu" were common causes of delay. In the entire series cathartics were commonly used and not rarely prescribed. The mortality, number of complications and hospital days increase with the duration of the disease up to six days. After that it localized and the mortality is less but the hospital stay is lengthened. The early diagnosis will be more frequently made when we realize that in its early period they are usually those of appendiceal obstruction, the infection appearing secondarily. We must not wait for the symptoms of peritonitis to make the diagnosis. The mortality in this series might have been less if the delayed treatment had been used on at least four cases of peritonitis. Appendectomy is the only treatment for acute appendicitis and surgical management the only treatment for its complications.

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DISCUSSION

DR. R. C. STONE (Battle Creek): Mr. Chairman, and Members of the Section: We all agree that Dr. Coller has presented the subject in a very masterful way. He really has left very little for discussion.

I think we are agreed with him, too, in the matter of diagnosis. In the treatment of acute appendicitis the diagnosis must be made early in order to keep our mortality down where it should be. I think that is one thing which should be stressed very pertinently in our discussions of this particular subject, because I believe most of us are having many more late cases of appendicitis being referred to us today than we were ten years ago. At least, that is my experience, and I know it is the experience of many of the men in my community and my portion of the state. If we are going to save these people we have to get them early.

Dr. Coller's experience with delayed cases is much

the same experience we all have. I quite agree with him in the treatment and the question of enterostomy. The delayed treatment which he suggests, of course, takes us back twenty-five or thirty years ago, when Ochsner was doing his pioneer work in appendicitis.

I am convinced with him that in those rapidly developing cases of peritonitis where the symptoms are not subsiding within a few hours or starting to subside, you have to immediately operate and drain and remove the appendix if possible.

I have also in my practice adopted the same course which he recommends in the treatment of my abscess cases. If the appendix is there, when I drain, I remove it. If not, I never break up the protecting wall. I think that is very important, especially when you are considering the abscess cases which you get so frequently in your older patients. I take the majority of our older patients, where a larger number of them die, through with the simple drainage.

I have enjoyed the paper very much. I am grateful to Dr. Coller for having presented the subject of appendicitis, because, as I said a moment ago, I feel that it has been getting away from us, or at least getting away from the profession at large to some extent because of the fact so many of our cases are coming in late and our mortality rate is higher today than it was ten years ago, largely due to that fact. Thank you. (Applause.)

Dr. G. A. Seybold (Jackson): The medical profession isn't proud of the fact that the mortality rate of appendicitis is on the increase. Dr. Coller has gone over the subject thoroughly, showing you why the mortality rate is increasing. Yet I think those of us who practice out in the state and in the small, wide-open hospitals know of other causes for the increasing mortality.

Dr. Coller has covered the diagnosis thoroughly. I can't add anything to that. I was interested in the relation of a leukocyte count to the treatment of appendicitis, and in checking over a series of cases of acute appendicitis, in order to correlate the leukocyte count with the pathology, I have come to the conclusion the count is not always an indication of the progress or severity of the disease. While in general counts were higher, by a few hundred, in cases complicated by gangrene, perforation, or peritonitis, there are many exceptions, and I believe that we should consider the count only as corroborative evidence in the diagnosis, along with the history of acute appendicitis and the physical findings.

Dr. Coller spoke of the drainage of appendiceal abscesses through the rectum and the vagina. He gives the mortality of 5.45. I believe in many cases the patient is carried through what would be a fatal case by such a drainage.

I have practiced it several times. In fact, in reviewing 311 cases, with 16 cases of appendiceal abscess, these cases were either drained rectally or through the vagina or far out laterally through the abdomen, so we could open up back of the cecum and not get into the peritoneal cavity. There were no deaths.

Dr. Coller spoke of drainage. When I went to school, drainage was spoken of very much. In fact, the old theory was, when in doubt, drain. I believe even in the mild cases where we have a suppurative appendicitis and some peritonitis, a small drain will be of great help. Where there is a general suppurative peritonitis with pus everywhere in the abdomen and pelvis, I think the tube put down in the cul-de-sac and numerous so-called Ferguson drains put into the kidney pouch and the cecal fossa will get these patients through when otherwise they would have died.

In the postoperative treatment of all cases of appendicitis, there is very little variation in technic. I don't believe in using the so-called button or buttonhole or McBurney muscle-splitting incision in any case of appendicitis unless we are sure there are no adhesions and no complications; and that limits the indication to using it in the male patient in the very, very beginning of the disease.

I think ileostomy has saved many patients. I believe, with Dr. Coller, that if one ileostomy isn't enough, two are indicated.

So, boiling down to a few words, the important points in any case of appendicitis are careful history taking and good examination, taking into consideration the leukocyte count. The pulse and temperature seldom mean much in immediate operation. In the operation I think the thing that saves many, many lives is careful, gentle handling of tissues, not tearing down adhesions. In a simple case, I think it is faulty technic if we expose in the wound more than the cecum. If we expose a whole lot of intestines we have run the risk of spreading infection and lessening the patient's chances.

Dr. C. D. Brooks (Detroit): Mr. Chairman and Members of the Section: I wish Dr. Coller had time to take up in detail all the things we would like to have him. He could also mention the fact one of the discussors mentioned, the leukocyte count being of too much importance in diagnosis.

I think another thing he could say was that one cause of mortality of appendicitis, besides the delay in making a diagnosis and prompt treatment, would be waiting for the leukocyte count to make a diagnosis for you. One of the most dangerous treatments is the use of the ice bag. If all the ice bags were piled up together and put beside the patients who died of appendicitis in a year, they would be about the same height—the ice bags on one side and the dead patients on the other. I feel that nothing is more dangerous than an ice bag in a case of appendicitis. It has no place on the abdomen in acute infection or in suspected appendicitis. It masks the symptoms and delays a correct diagnosis; after the ice bag has been applied for a few hours, and then a surgeon is called in, it has taken away the most important clinical symptom, that of local rigidity or muscle spasm.

Regarding the secondary phase of peritonitis, complicating appendicitis, we believe, as Dr. Coller mentioned, that the mortality would be nil if operation can be undertaken before the onset of peritonitis.

Dr. Coller said many lives are saved by proper surgical management in the late cases. Patients should have morphine or codein if necessary to relieve the restlessness, the stomach should be emptied every three or hour hours and should be irrigated with two per cent saline. Absolutely no cathartics or enemata should be given, only sips of warm water by mouth daily, and glucose twice a day, 50 c.c. of 50% glucose in 200 c.c. of distilled water. We believe saline by hypodermoclysis also is very important, and give 200 or 300 c.c. every hour in the pectoral region. Fluids per rectum may not be absorbed and should not be relied upon to relieve the dehydration in these desperately sick patients.

In operations upon patients with ruptured and gangrenous appendices, the operation should be as short as possible, as these patients, especially if they are children, will not stand a long operation.

We believe enterostomy is very important at the time of operation, when there is marked small bowel distention, and vomiting. Cecostomy acts very well, a small catheter, size 24 Fr. is placed in the cecum after removal of the appendix and is sutured in place with No. 0 or 1 catgut. Besides the tube being of great value for the escape of flatus it is valuable to use for the instillation of fluids which are given every three or four hours, and a clamp placed on the tube so that these fluids may be re-

tained. One half hour before the instillation of fluids the clamp is removed to allow the escape of flatus. We believe that simple ligation of the acute gangrenous appendix is best, and the stump of such appendices should never be inverted. Spinal anesthesia is one of the most important aids in operating on these cases, as the operation is much easier for the patient and also for the surgeon. One does not have to put any pads in the cavity to carry the pus further back and injure the bowels, and the operation can be performed accurately and rapidly and with extreme gentleness.

Dr. William J. Cassidy (Detroit): This paper belongs in the field of General Medicine rather than in the Surgical Section. Surgeons have been pretty well and thoroughly convinced on the early operation and early diagnosis of appendicitis.

It isn't the easiest thing in the world to diagnose appendicitis. We don't always have abdominal pain, vomiting and muscular rigidity. If that held true, even the layman could diagnose appendicitis. I have seen hundreds of cases that baffled even the most astute clinician to put his finger on it and say, "That is appendicitis," before he opened it up. How many have you seen opened up, after the most careful evaluation was made, to find that the case did not confirm the diagnosis?

So we should not be too harsh in our criticism of some of our confreres. The general practitioner does well with what he has to do and what he has to work with and the general education he has received.

So far as the mortality in the surgical field is concerned, any department is just as efficient as the training of the men in that department. The relative number of blunders and relative number of mistakes are directly proportionate to the efficiency of the men. That reverts back again to your fundamental medical training.

If we don't teach men to rapidly tie knots, or to efficiently use their hands, the time limit extends way beyond that which it should. If anatomical dissections are across the lines of cleavage, not with the lines of cleavage, wide dissection with a great deal of tissue damage is done. In many cases inability of the surgeon to orient his pathologic anatomy because he doesn't visualize his ordinary simple gross anatomy, causes fumbling and stumbling. He should be able to finger it, and not necessarily to open the patient from the umbilicus to the pelvis in order to deliver a simple appendix. Nor should he handle two feet of bowel to find the appendix. That is what you see so many times.

I think Dr. Coller hit the nail on the head again when he tells you the mortality is rising. It is rising in all the acute and the abdominal infections and is carrying more people away in this country and practically every country in the world than cancer. Yet we are organizing more cancer committees all the time, and neglecting the other.

Dr. Frederick A. Coller (closing discussion): I want to take this opportunity of thanking those who have discussed this paper for bringing out many points upon which I did not touch.

I quite agree with Dr. Brooks about the ice bag. I don't know who started the idea, still prevalent, that an ice bag will have some effect on appendicitis. I don't believe it has any effect at all, except it may give some local anesthesia and cause delay that otherwise might not occur. In my opinion, it is bad practice to give a large dose of morphine at the same time to still more effectually mask the symptoms. There is no evidence in existence that the ice bag has any influence on the course of appendicitis.

I didn't go into the matter of technic at all in the paper. It is my own feeling, as Dr. Vanden Berg stated, that it is better to approach the appendix from the side. So many of them are paracecal and easily reached only from the right side. Drainage across the small bowel through a median or a right rectal incision I am sure causes obstruction in many cases. I prefer to go in the side and, and he says, if you have made a mistake, no great harm is done and you can reorient yourself and go where etiology indicates.

In summary, I would like again to emphasize that the mortality of acute appendicitis is high and there is evidence to show that it is increasing, as all of the discussers have brought out.

The diagnosis may be easy. Oftentimes it is very, very difficult, and the symptoms we have been going on, that have been taught to us, are those of some phase, perhaps an early phase, of peritonitis. And when all is said and done, I know of no group of cases that may require the greater surgical judgment and great surgical skill than certain phases of acute appendicitis. I believe these are cases for the experienced surgeon if we are going to lower this mortality.

Again I want to thank the discussers for bringing out so many points I failed to cover in my paper.

TREATMENT OF PEPTIC ULCER WITH GASTRIC MUCIN

According to Samuel J. Fogelson, Chicago, gastric mucin prepared from hog's stomach is only a mild excitant of gastric secretion. Gastric mucin has a high combining power. Two ounces of mucin placed in the stomach of a dog was more than sufficient to combine with the acid secreted in response to the injection of 1 mg. of histamine. When half an ounce of mucin was mixed with a pound of meat and fed to a dog, free acid did not appear in the dog's stomach throughout the period of observation of from five to seven hours. Complete relief from symptoms for varying periods of from two to five months was afforded to twelve patients with classic histories and roentgen appearances of peptic ulcer by feeding them about an ounce of hog's gastric mucin three times a day with their meals in addition to about 30 grains of mucin in tablet form hourly throughout the day.—Journal A. M. A.

USE OF VITAMIN B IN DIETS OF INFANTS

Wheat germ and yeast in the form of dried powdered watery extracts when added in the proportions of 1 gm. of wheat germ extract and 0.5 gm. of yeast extract to 1 ounce of a preparation of maltose and dextrin and fed to infants by B. Raymond Hoobler, Detroit, caused no appreciable gain in weight over controls who were fed on similar formulas without vitamin B additions. Infants given vitamin B additions showed a greater growth in recumbent and stem length than controls not given the vitamin B additions. About one out of six of the infants studied showed symptoms of rigidity. This symptom disappeared in all but six of the cases, indicating that the quantity of vitamin B needed by infants differs greatly, and that one should bear in mind that while the amount of vitamin B in the commercial carbohydrate preparations may be sufficient for certain infants, there are others who will require larger quantities.—Journal A. M. A.

ROENTGEN FINDINGS AS EVIDENCE IN MEDICO-LEGAL CASES

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Physicians are being called upon more and more to give testimony in our several courts in cases of bodily injury or illness associated with certain occupations. There are three conditions which are factors in the increase in this field of medical activity:

1. With the substitution of machines for man power, and motor driven for horse driven vehicles, the number of injuries more or less disabling has increased at a rapid rate, and every such injury is a potential damage suit.

2. The surplus of labor resulting from the installation of labor saving machines has made employment unsteady, and employees use the compensation act to force employers to keep them on the payroll or to pay them damages for injuries never sustained, or for symptoms in no way related with the compensable injury.

3. The location of colleges of medicine and law in large centers of population, with low entrance and graduation requirements, has permitted the entrance of many into the practice of these professions who are utterly lacking in the instincts necessary for the proper conduct of their calling. Collusion between unscrupulous lawyers and physicians who give dishonest medical testimony is of frequent occurrence and is a serious problem in medico-legal practice.

Physicians who are called upon to care for many injured should have knowledge of court procedure and be familiar with the aims and purposes of the workmen's compensation laws.

The basic principle underlying all workers' compensation statutes is that "business" should carry the financial burden incident to injuries to and sickness of employees "arising out of and in the course of their employment." The right to claim compensation depends solely on the incapacity, partial or complete, to earn wages by reason of personal injury by accident sustained under the above conditions. No provision is made for any claim based on the pain and suffering endured by the injured worker or for sentimental damages.

The question of occupational diseases is being given more consideration and in a greater or less degree such diseases are being classified in the category of personal injury arising out of and in the course of employment.

Frequently it becomes necessary to debate the exact definition of the word "accident." Several definitions have been suggested and adopted by various legal authorities. The English have defined accident as "an unlooked for mishap or an untoward event which is not expected or designed." An American definition states that "an accident means an unexpected or unforeseen event happening suddenly or violently, with or without human fault, and producing at the same time injury to the physical structure of the body."

In workmen's compensation jurisprudence, the word has attached to it the meaning of personal injury by accident. Necessarily there is some particular occurrence or event, and happening, at some particular time. A very definite distinction is made between injury by accident and injury that has been gradually acquired. In the latter class of cases, the accidental element is wanting and save in the case of statutory occupational disease, there exists no basis for any legal claim for compensation against the master or employer. It is recognized, or should be, that there are necessary and ordinary effects upon a man's constitution from the work in which he is engaged from day to day.

But a liberal interpretation and administration of the compensation statutes is extending the limits of industrial liability far beyond the area of that contemplated by the creators of compensation insurance. Thus it has been held that a physiological lesion or damage sustained by a workman in the course of his employment constitutes an injury, even without extraordinary effort or unusual conditions. The fact that the man did not foresee or design the event is held to satisfy the requirement of the compensation law.

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In the appendix of a book recently published entitled "The Doctor in Court," Judge Fricke has this to say in discussing the expert witness: "He must ever keep in mind that he is not an enlisted man forming a part of the army of offense or defense for the side which calls him. He is called as a man having special knowledge, to relate what facts he has learned as to the matter involving his special knowledge and to give his own personal and unbiased opinion on that matter. He must carefully guard against his being influenced, consciously or unconsciously, by the fact that a particular contestant has called him. He must satisfy himself as to the honesty and sincerity of the person who calls him and of the person in whose behalf he is called. He should be absolutely indifferent as to the ultimate outcome of the trial. His testimony when concluded should be a credit to his service and profession."

Any of us who has had a more or less extended court experience well realize that a physician who attempts to follow this ideal will rarely be summoned to serve as an expert medical witness, for he will be of little value to either contestant. And it could be added further that if he is called it will be difficult for him to follow this ideal because of the wishes and attitudes of the attorneys and the rules of the court.

Fig. 1. A developmental abnormality sometimes interpreted as fracture. A supernumerary scaphoid, the so-called prehallux.

Fig. 2. An infrequent sesamoid. The small bone lying opposite the cuboid is not a detached fragment.

But while it is true that the variances and contradictions in medical testimony are often due to and explained by bias or prejudice or actual dishonesty on the part of the witness, yet the conflict in statements many times is based on honest difference of opinion regarding certain medical problems; that is, there are certain moot questions with authorities holding opposing views, and then there is the difference of opinion due to variations in quality and degree of training and experience.

In the branch of medicine in which I practice—roentgenology—errors of inexperience can be grouped under the following headings:

1. Interpreting normal structures as pathologic or traumatic.

2. Interpreting anomalies or variations

in structure as changes incident to disease or injury.

3. Interpreting certain pathologic or disease changes as evidence of injury or acute trauma.

Fig. 3. Chronic changes in radio-ulnar joint and at ulna. Patient claimed recent injury, denying previous disturbance.

Fig. 4. Changes in radio-carpal joint secondary to old scaphoid fracture. Recent injury, but old injury not admitted.

Among examples of Group 1 can be mentioned:

a. Blood vessel grooves on shafts of long bones such as fibula or clavicle, or markings on the inner table of the skull considered as traumas. These latter are especially confusing.

b. Irregular calcification of the costal cartilages, especially the twelfth at its anterior extremity, considered fracture.

c. Variation in rib structure due to overlying pulmonary shadows interpreted as intrinsic rib change.

In Group 2 may be included:

a. Accessory tarsal scaphoid or the so-called pre-hallux, mistaken for detached fragment, especially in the presence of swelling and tenderness.

b. Os trigonum or astragaloid tubercle if non-united, considered a traumatic separation. True fractures do occur at this point (Shepherd's fracture).

c. Hamstring sesamoids reported as avulsed fractures or loose foreign bodies in the knee joints.

d. Sesamoid at acetabular margin as fracture of the ilium.

e. Occult spina bifida at any spinal level considered as fracture.

f. Rudimentary ribs—first lumbar segment—interpreted as fracture of the first lumbar lateral processes.

g. Bipartite carpal scaphoid as fracture, and many others less common.

In Group 3, the most common and most important errors are in connection with the classification of lesions of the spine—important because many individuals have spines showing advanced cartilage and bone change without the history of permanent symptoms or history of injury, and important because of the popular idea that any deviation from the normal in spine structure is a most serious matter. In spite of the great emphasis placed on differential diagnosis of deformi-

ties of the vertebral bodies, we have been involved in three suits within the past few months in which medical witnesses for the plaintiff testified that certain deformities demonstrated were the result of injury producing compression fractures, while all of the evidence, clinical as well as historical and roentgenological, definitely indicated the destruction or distortion due to an inflammatory or infectious process. These three cases illustrated the three most common types of spinal deformities resulting from infection or chronic disease.

Fig. 5. A unilateral lumbar rib. Often interpreted as fracture of lateral process of first lumbar segment.

Fig. 6. Another developmental abnormality—a bilateral lumbar rib.

1. It was early observed that chronic inflammatory or chronic irritative changes occur with great frequency at the lower cervical level. The lesions are observed in all classes of patients and usually they are not associated with symptoms or signs. The new bone formation occurs at the anterior angles of the fifth and sixth cervical segment bodies and, depending upon the stage, there is thinning of one or more of the intervertebral cartilages.

A passenger on the Michigan Central Railroad claimed an injury to the neck when by sudden starting or stopping of the train his head struck the section partition. Roentgen studies of his neck were made, and the examining roentgenologist reported compression fractures of the lower cervical bodies. As expert witnesses for the defense, we repeated the study and reported no fractures but rather chronic irritative changes. We were able to convince the judge and the jury that this patient suffered no fracture.

2. A number of studies have been reported on large series of roentgen films of the spine and it is agreed that pathological changes occur most often in the lumbar and lumbosacral regions, and less frequently at the thoracic level. We have observed, in our study of the thoracic spine, that it is the exception when an adult spine does not show osteophyte formation at the anterior angles of the bodies at the mid-thoracic levels and in some of these cases thinning of the intervertebral cartilage also. Many of these patients are symptom-free and with a negative history. A certain few present a spinal arthritic history with acute symptoms. The roentgen findings in these cases include uniform narrowing of one or more bodies or irregularities in gross structure with uneven outline, spur formation at the articular margins and atrophy of cartilage. Such findings indicate a condition of spinal epiphysitis, with old and inactive changes.

A young man of 28 was involved in an automobile accident. Roentgen studies of his spine immediately following demonstrated narrowed bodies in the mid-thoracic region and his physicians diagnosed compression fractures and treated him accordingly. He sued some months later and we were asked to repeat the X-ray studies. We included the entire spine and found extensive changes incident to a widespread epiphysitis. We were able in this case to convince the plaintiff's experts that the condi-

tion was one of chronic disease rather than fracture deformity, the case being settled on this basis. Our conclusion in this case explained a remark made by the plaintiff's wife to him at the time of the accident that "I hope your back trouble will not come back again." (Figures 3 and 4.)

Fig. 7. Early chronic irritative changes at anterior angles of sixth and seventh cervical segments. Patient claimed injury. His physician diagnosed deformity as fracture. (This not sustained in court action.)

Fig. 8. Advanced chronic irritative changes involving all cervical bodies. An incidental finding. No symptoms referable to neck.

3. In the group in which definite pathological changes in the spine are diagnosed as the result of trauma, the outstanding example is the confusion of distortion due to Pott's disease and deformity due to compression fracture of the vertebral bodies. Differential diagnosis should not be difficult, because both have a characteristic roentgen appearance. In the presence of Pott's disease, the primary involvement is usually in the intervertebral cartilage, the bone structure being involved by direct extension. In the case of fracture, the cartilage is usually intact and especially if examination is made early following injury and the deformity of the bodies is associated with bone condensation or increased density rather than demineralization.

A driver fell from his truck, sustaining injuries to his back. Roentgen studies immediately following the accident revealed spinal deformity in the lumbar region interpreted by the examining roentgenologist as compression fracture. As consultants, we re-examined the patient and the lesions demonstrated were typical of a destructive process from infection rather than traumatic deformity. (Fig. 5.)

The cases in which there is conflicting medical testimony from competent and conscientious witnesses usually are concerned with the following problems:

1. Is injury or trauma an etiologic factor in the causation of malignancy?
2. Does trauma influence the progress of malignancy?
3. Is the course of an infectious disease, either local or general, altered by trauma?
4. Is injury a cause, direct or indirect, of arthritis and is traumatic arthritis a clinical entity?
5. Are there limitations to the roentgenologist's determination of joint function or are there roentgen signs permitting the estimation of joint disability or the presence of pain?

All of these questions are arising daily in our courts and their discussion would be profitable, but obviously they can not all be considered at this time. Therefore I will deal only with tumor and arthritis and some general infections as they are influenced by injury.

TRAUMA AND MALIGNANCY

Of increasing interest and importance to industrial surgeons is the relation of trauma and malignancy. In spite of any scientific support, there is a growing popular belief that tumors at times are caused by simple

or single injuries, and this idea is reflected in the increasing compensation and court awards in such cases.

Recently a case was heard before the Michigan Industrial Accident Board in which it was claimed by the plaintiff that an injury to his chest had caused the development of a cancer of the stomach. The testimony indicated that the blow to the lower mid-anterior chest wall did not result in any local tissue damage, but some twelve or fifteen hours later the plaintiff developed a rather severe gastric hemorrhage. Within three months of the alleged injury a roentgen study of the stomach revealed a moderately advanced gastric carcinoma involving the posterior wall high up. Four months later a laparotomy was done and an inoperable tumor found. The clinical course of the case was that of the usual malignancy of the stomach, with occasional hemorrhages and progressive loss of weight and strength. The defense testimony stressed the absence of any tissue damage at the point of injury, the protected position of the upper end of the stomach and its nonrelationship to the lateral chest wall, the fact that the extent of the tumor would place its development much earlier than the injury and that the history of this case indicated the usual progressive stomach malignancy. In addition, the defense witnesses in their testimony gave their own experience and the opinions of Ewing and other authorities on malignancy regarding the relationship of trauma and new growth. The commissioner decided in favor of the plaintiff, but an appeal was made. However, the decision of the full board has not been handed down.

Fig. 9. Deformity of thoracic vertebral bodies secondary to epiphysitis. Wrongly interpreted as compression fractures.

Fig. 10. Lumbar spine of patient in Figure 9. Note limited evidence of epiphysitis involving first and third bodies.

Before a connection can be established between the development of a tumor and a preceding injury, Ewing suggests the following requirements:

1. The authenticity and the sufficient severity of the trauma must be established.
2. The previous integrity of the wounded part must be shown.
3. The identity of the injured area with the site of the subsequent neoplastic growth must be demonstrated.
4. The tumor must be shown to be a type which could result from trauma.
5. The proper interval of time must be proved to have elapsed.

In the above case none of the conditions required by Ewing were met and yet the case was lost by the defense.

Lubarsh summarizes the facts against the theory of traumatic causation of acute tumors as follows:

1. That blows and other injuries generally call attention to hitherto unsuspected tumors and that proof of the existence of such unsuspected growths is given by the fact that neoplasms which have never given recognizable symptoms are constantly being discovered at autopsies.

2. That injuries are infinitely more frequent than neoplasms.

In this connection, the following observations are convincing:

Fig. 11. Spinal deformity due to tuberculosis. Note destruction of intervertebral cartilages and beginning involvement of bodies. Demineralization is characteristic of tuberculosis.

Fig. 12. Vertebral body deformity due to a chronic osteoarthritis and former epiphysitis. Wrongly diagnosed as a multiple compression fracture.

a. Carcinoma and sarcoma incidence among many thousands of New York State injured workmen conforms to the average of the general population.

b. In spite of injury to millions during the world war, there was no increase in the number of cases of malignant disease reported and no increase in the death rate from these causes.

3. That many tumors have a long latent period.

4. That experimental evidence for the theory that a single trauma can cause a tumor is lacking.

But while it is generally agreed that a malignant tumor does not develop from a single injury to a normal tissue, there is some evidence to support the view that a single injury might excite a pre-existing abnormality of benign tendencies to rapid or malignant growth. This is not in accord with Ewing and other pathologists but as an example of this possibility I suggest the frequent excitation of melanosarcoma to increased local growth or early metastatic spread by incision or excision or attempted destruction by chemical or electrical methods. In a paper recently presented dealing with our experience with melanosarcoma, seven cases out of forty-two reported gave a clear history of growth and metastatic extension promptly following direct physical trauma.

Considering all the clinical and laboratory observations, the following conclusions are consistent with the facts:

1. Causative relationship has never been completely established.

2. Possibility of single trauma inducing tumor in a limited number of situations, but proof is lacking in these few cases.

3. Experimental producing of tumor by single trauma necessary to establish relationship.

4. Award of compensation solely on this basis of production of tumor by single trauma not justified.

5. Justification for awarding compensation on basis of collateral or adjuvant agent —if proof of injury is established and microscopic demonstration of malignancy is done.

6. In compensation awards, the condition appears to be one of injury calling attention to a tumor pre-existing.

TRAUMA AND ARTHRITIS

Of less academic interest, but of greater practical importance, is the question of the relation of injury to arthritis, generalized or localized. The testimony of the roentgenologist is vital in these cases, owing to the fact that his statements are based on records—roentgen films—that enable him and permit him to draw conclusions as to

evidence of disturbed function or basis for disturbed function. Not only can the roentgenologist determine the direct results of injury or disease, such as disturbance in gross bone structure, outline or alignment or relations, but indirect changes also are demonstrated, such as the various atrophies and the secondary chronic irritative changes, not only in bone tissue but also in cartilage and soft tissues. In other words, the pathology of arthritis is best revealed by roentgen examination and the most satisfactory classification is based on the roentgen findings.

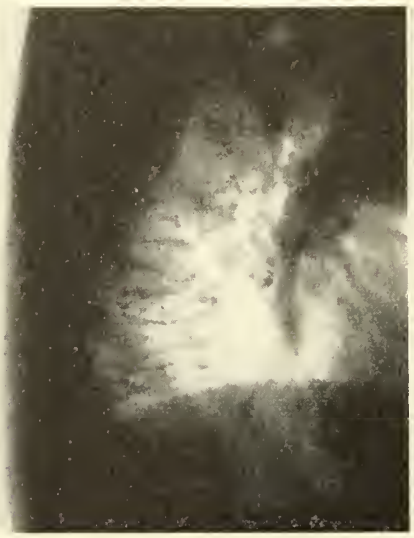

Fig. 13. Vertebral bodies narrowed and markedly deficient in lime. Represents parathyroid dysfunction and not deformity due to injury.

Fig. 14. Same as in Figure 13, with changes less advanced. Impression is given of limited compression fracture.

The diagnosis offered by many medical witnesses as a basis for claim for excessive damages in court cases or permanent disability in compensation cases is traumatic arthritis. The clinical testimony is often supported by the roentgen records, especially if the symptoms are referable to the spine.

In the general classification of arthritis by Henderson and Hinch of the Mayo Clinic, trauma is considered an etiological factor, and a group is so named, but the word "trauma" is used in a broad sense. Extrinsic trauma may produce a condition simulating acute arthritis, base-ball finger being an example of the articular type. This condition is not a true arthritis, for here the signs and symptoms are directly due to fractures, ruptures or tears and effusions into joint spaces, and not due to frank inflammatory changes. Extrinsic trauma produces also the so-called non-articular arthritis, such as housemaid's knee, sprains and strains, but again the changes present indicate results from chronic irritation or definite tissue injury and not a frank arthritis.

Under intrinsic trauma can be considered all those conditions in which undue stress or strain is exerted on any part of the body for long periods or repeated short periods. The spine is the structure most frequently subjected to these chronic conditions and this fact explains the almost constant presence of one or more of the following pathological changes — narrowing of joint spaces, variation in density at articular surfaces, bone overgrowth at articular margins or angles, or spur formation at ligamentous attachments and variations in bone texture or gross structure. All of these changes are characteristic of arthritis of infectious origin, yet also they all can be brought about directly by chronic irritation associated with bad postures or malpositions or the undue stress or strain incident to obesity or to unusual occupations. In addition, many of these changes are associated with or result from abnormal body metabolism exclusive of obesity.

So when a witness supports his clinical diagnosis of a traumatic arthritis with certain abnormal findings, the opposing counsel is justified in questioning this testimony and

forcing him to admit that similar conditions frequently exist without history of injury and without disturbed function.

A practical application can be made of these facts (referring to spine changes induced by posture and position) and progressive industrial physicians are seeing to it that workers are protected from "industrial fatigue" by "suiting the job to the worker rather than the worker to the job." That is, the worker's physical build is studied in relation to the nature of his employment. Incidence of disability from back injuries has been lessened in certain English industries by the application of the following rule: "Short backs for heavy work and long backs for speed." In like manner, attention to providing proper height for benches and desks has resulted in lessened complaint from back disorders.

If it is true that tissue changes demonstrated by roentgen-ray examination result from stress and strain or wear and tear in individuals giving no history of injury or active disease, and no evidence of focal infection, it should be a proper conclusion that any claim for disability, partial or complete, based on a diagnosis of arthritis—traumatic or otherwise—should be supported by films revealing tissue change as a basis for or evidence of disturbed function. Should the claim be based on a back injury and films of the spine and pelvis reveal no chronic irritative changes, nor frank arthritic changes, there is justification for positive testimony that the claimant is not disabled and that probably any symptoms complained of are assumed or at least greatly magnified. And, of course, granting the presence of such changes, additional proof must be advanced that they are of clinical importance. Of, if a claim is based on disturbed function following healing of a fracture of a long bone, there should be testimony presented stating tissue change in joints formed by the involved bone. Were the case one of tibial fracture and impaired function of the ankle was claimed, such claim must be supported by statements of tissue change such as bone atrophy, demineralization or bone condensation, bone overgrowth at the articular margins, or any of

Fig. 15. Note marked changes in one thoracic and one lumbar vertebral body. Distorted spinal segments in adults may have their origin in childhood disease.

Fig. 16. A low "Sprengel's" deformity—wrongly interpreted as Pott's disease and so treated.

Fig. 17. An extreme fracture-dislocation of lumbar spine. Patient complained of few symptoms and had no disability.

Fig. 18. A melanosarcoma excited to malignant growth by a single injury—excision by barber.

the many changes associated with chronic or prolonged disturbance in function.

It is fortunate that permanent and demonstrable joint changes occur so frequently in cases of injury or disease, for owing to this fact one can often state that an injured member has suffered a previous injury or that an old lesion or deformity is being used as evidence of recent trauma. So often a patient has denied a previous injury and yet his imperfect memory is corrected when he is confronted with undeniable proof of a former fracture.

Fig. 19. Very chronic pleural and pulmonary changes in left thorax and earlier changes near right root. Plaintiff claimed injury to lower left ribs was cause of lung condition. Roentgen study within six weeks of accident.

Fig. 20. Same as Figure 19, two and a half years later. Condition of left lung constant; healing by resolution of lesion in right lung. Claim of injury inducing tuberculosis not sustained.

Our ability to demonstrate these many variations in joint or other tissue structure has not served always to advance justice. Undue importance is often attached to variation in structure, outline or relations of anatomical units and excessive awards are given because of some apparent abnormality. Due consideration should be given to the determination of the clinical importance of a given deviation from the normal. Certainly one hundred per cent perfection in anatomical structure is not required for one hundred per cent function and yet total disability is often granted because a minor structure change has been proved or admitted. Granting that tissue imperfection and certain degrees of impaired function are present, it is obvious that many individuals can and do perform satisfactorily the duties in many situations with this handicap.

We should be cautious that we do not attach too much importance to roentgen findings. It is charged, justly, that undue reliance is often placed on the testimony of the roentgen diagnostician. Yet there is no other method that brings to the examiner such a reliable record of past events, presents a more comprehensive view of present conditions or permits a more accurate prognostication of coming events.

Attorneys and claimants are taking advantage of the usually accepted view that certain conditions due to local infection are closely associated with injury, and are making claims for compensation in cases of tuberculosis or syphilis, the employee having had an injury more or less severe or imagined. Within the past month I have been involved in a case of thoracic Pott's disease, in which claim was made that an injury to the anterior chest wall, so slight that no skin or other changes occurred, resulted in the tuberculosis of the spine, and a second case, in which, six or seven months after the workman received a blow on his right chest near the sternum, producing no appreciable tissue change, a diagnosis of pulmonary tuberculosis was made, based his suit for compensation on the claim that the injury was directly the cause of his tuberculosis and associated disability.

In each of these cases plenty of medical testimony was offered supporting these claims and in both cases the ruling of the commissioner was for the claimants. Yet

in neither was there any testimony offered that described in the slightest degree the tissue change or damage incident to the alleged injury, nor was any attempt made to indicate what tissues, if any, were involved. Neither was there any satisfactory or convincing evidence that these workmen were not suffering from their disease at the time of the accident, and no effort was made to explain or describe the exact method or mechanics of the association of the injury and the disease. These medical witnesses seemed content to testify that the disease resulted from the injury and apparently were not concerned in ascertaining how they arrived at such a conclusion. They accepted the sequence of events as a cause and effect —an unscientific and unjustifiable reasoning.

The increasing burden being placed on employers for the medical care of their injured help and the resulting compensation will necessitate action on their part to reduce the number of claims or to lessen the awards.

This can be done in part by more comprehensive examinations preliminary to employment, and it may involve roentgen studies of the chest and spine, in addition to careful physical examinations. Help will come from greater care in examination of the injured and the making of accurate records. In this connection roentgen records are of especial value. It has been our custom when making a roentgen study of the chest for rib fracture to supplement the bone study with a film to show all the intrathoracic structures. This frequently results in the discovery of unsuspected lung or heart disease. And the more frequent use of roentgen examination when injuries appear trivial, or when there is no clinical evidence of fracture, will be found to be advantageous. In a recent communication it was shown that six per cent of fractures about the wrist were unrecognized at the time of injury or for some days following. And further, roentgen records made during the treatment of fractures or at times of discharges of such patients will prevent unfair judgments.

Finally, all employers and physicians should be familiar with the attitude of our courts as to the importance of roentgen examination and records. With proper examinations by competent examiners justice will be better served to employer and employee alike.

The accompanying illustrations show conditions described in the text.

WOMEN IN MEDICINE

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DETROIT, MICHIGAN

The history of women in medicine begins in the centuries before Christ. Many attained recognition and even fame, contributing to both science and literature. In the early Christian period (fourth annd fifth centuries) many converts left their homes to devote their lives to medical science. Fabiola, a native of Rome, was the founder of the first important hospital of that city. At her time a hospital was unheard of, and so the work done by this early Christian woman is of inestimable value. Her work in establishing a hospital did more for suffering humanity than any person of her day ever dreamed of. Saint Jerome said of her, "If I had a hundred tongues, I should not be able to enumerate all the maladies to which Fabiola gave most prodigal care and tenderness."

Medieval women physicians date from the time of Romulus Augustus in 476 to the fall of Constantinople in 1453. During this period, "The Dark Ages," the practice of medicine was in the hands of monks and nuns. The monasteries and nunneries became the headquarters for those wounded in battle, and for the sick; so in fact these places were medieval hospitals. Mozans, in his *Women in Science,* states that the healing art was considered as pertaining to woman's calling, and it became a part of the curriculum in convent schools; no girl's education was considered complete unless she had an elementary knowledge of medicine and of that part of surgery which deals with the treatment of wounds. There are numerous references in history to women who played an important rôle in medicine and surgery during the middle ages. The

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very frequent introduction of women physicians into the poems and romances of this time is an interesting fact. Saint Hildegarde in 1179, was, according to Mlle. Lipinska, the most important medical writer of her time. The Benedictine nuns had exactly the same opportunities as the monks. Hildegarde wrote books on Materia Medica pathology, physiology, therapeutics and good practitioners. She wrote "Liber Simplicis Medicinæ," which was edited at the beginning of the eighteenth century by Dr. Schott under the title of "Physica S. Hildegardis." Virchow called it an "early materia medica" curiously complete considering the age in which it belonged.

Salerno became the great medical school of that time. It had requirements as rigid as the best medical schools of to-day, with a three year pre-medical course of philosophy and literature, a five year course in medicine and a one year course with a doctor. It was the benefactor of all scholarships and culture regardless of sex. Thus Salerno was the first university to open its doors to women and the first to grant degrees to them. There was a carefully organized department of women's diseases, which was entirely under the care of women professors. Trotula, the head of this department, was one of the most famous graduates from Salerno. There were numerous other women graduates from the medical school of Salerno, many of whom published works and received great reputation from them. One woman described a perineorrhaphy.

In England during the reign of King Edgar, "959-975," women were entitled by law to practice medicine. But in 1421 Henry V had Edgar's law repealed and women were not allowed to enter the universities. Little more was heard of women in this particular field until centuries later. Women were midwives, but that was all.

Women as physicians seem to have disappeared along about the sixteenth century, not to reappear until the early part of the nineteenth century.

Now after thousands of years, our pioneer sister of Egypt is memorialized by our own American Medical Association in *Hygeia.*

Modern medicine goes back less than two centuries to the beginning of organization and standardization.

Elizabeth Blackwell in 1849 stands alone, the first woman graduate of modern times, and from an American college. Since then there has been a steady increase in the number of women physicians until in the United States alone we now have approximately seven thousand.

In 1850 in Philadelphia the first woman's school was chartered, graduating its first class in 1852. It is still in existence, the last of eight, the others being discontinued as co-education became popular. Although Geneva granted the first degree in 1849, it was not until 1870 that the second American institution, the University of Michigan, became co-educational; and not until 1879, when the Pennsylvania Hospital at Philadelphia opened its doors to the Women's Medical College, were any clinical facilities available. We owe much to this fine old school maintaining its Class A standard and to its dean, Martha Tracy, a physician of rare ability and womanliness.

Dr. Ann Preston was the first graduate, and was afterwards made dean of the College, which position she held until her death in 1872.

The United States was the first to sponsor co-education and was followed through the years by all the European countries, until 1900, when Germany reluctantly completed the list and now accepts a medical woman member of the Reichstadt.

In 1866 France opened her professional doors to women, thereby admitting the University of Paris to co-education, but interns were not appointed till twenty years later. In France medical women were placed in the National War Service and twenty-nine Croix de Guerre were received by medical women.

In the Scandinavian countries, including Finland, we find absolute equality of opportunity since the early seventies. Russia, Greece, Holland, Belgium, Mexico, and Austria as late as 1897, finally adopted co-education.

Italy 1876, France 1867, Switzerland 1864, England 1877, and even Scotland in 1866. These five with America, pioneers, have justified their faith by accepting women at home and abroad. Spain appointed her first municipal physician in 1930.

British women, unlike Americans, are closely associated in their work and have established many large and well equipped hospitals entirely staffed by their own sex; notably the Marie Curie Radium Research

hospital and two fine hospitals in London for women and children. Drs. Chadburn and Martindale are among the Nationally acknowledged surgeons, Christine Murrell, serves in the British House of Delegates. Lady Barrett headed the Obstetric section of the British society in 1926. Elsie Ingles organized the Scottish woman's hospitals. English women seldom use the term doctor. Toward the end of the war a thousand-bed hospital was established in London by the Government and staffed entirely by women. In both England and Canada a woman heads the Maternity and Child Welfare Departments.

American women, widely separated territorially, have associated themselves more generally with their local medical units.

It is interesting to note that Mary Putname Jacobi was the first of her sex to become a member of a County Medical Society, Sara H. Stevenson, in 1876, achieved the honor of membership in the A. M. A. and Martha Welptom, of California, fifty years later sits in the House of Delegates. Dr. Florence Johnston, of Iowa, served several years as associate editor of the A. M. A. A woman is president of the Association of Anesthetists in the United States and Canada. There are fifty-eight Fellows of the American College of Surgeons, two of them Canadians; twenty-five Fellows of the American College of Physicians with five Associate, and thirty in the College of Ophthalmology.

In 1917 there were sixteen co-educational schools in the United States with mixed faculties; to-day there are sixty-two co-educational, four for men exclusively and one for women exclusively. The nine Canadian schools admit both sexes and six provide internships. Dr. Bertha Van Hoosen, in her survey for medical women as interns, stated in the nineties there were only a few hospitals where it was possible for a woman intern to get an appointment. The admittance of women to hospital internships has been a slow but a steady gain, and in 1929, in six hundred and twenty-seven A. M. A. approved hospitals with five thousand four hundred and twenty-two internships, one hundred and eighty-two were provided for women. Seven hospitals had internships for women only. Of the two hundred and ninety-seven hospitals approved for residences in specialties, fifty-two provided internships for them.

Dr. Blanche M. Haines, Director of the Division of Maternity and Infancy in the Department of Labor, reports sixteen states with women physicians as directors. In 1893 there were a hundred and thirty-three women on civilian hospital staffs—they are now generally accepted everywhere on the same basis as men.

The opportunities for women to do research in medicine are of special interest. The answers to a questionnaire sent out by the Women's Bureau of the United States Department of Labor in 1926 shows that 7.5 per cent are thus engaged—3.2 per cent full time, 4.3 per cent part time. It is fair to conclude that among the 7,000 women physicians practicing in the United States, there are approximately 500 women physicians doing research work.

A few of the medical women, who have made special contributions to the public welfare:

Clara Swain, a graduate of the Woman's Medical College in 1869, was the first woman medical missionary in the world.

Dr. Anna Howard Shaw made her great contribution to human welfare, not as a practicing physician (although she held the medical degree) but as a publicist, and laid the firm foundation for women's suffrage.

Dr. Josephine Baker developed in the city of New York a public health organization and technic for maternal and infant welfare and for the school child, which has become a model for the world.

Dr. Alice Hamilton has traced to their ultimate origins industrial poisons and holds to-day a professorship at Harvard Medical School.

Madam Curie adds lustre to the title of doctor of medicine, which she holds by her researches in the field of radio-active material. Dr. Zavadsky is an associate of Madam Curie and a noted biologist.

The Medical Woman's National Association, a member agency of the National Council of Women, is a group organized in 1915 to encourage social and co-operative relations within and without the profession, and to forward such constructive movements as may properly be indorsed by the medical profession.

Dr. Esther Lovejoy, of Oregon, was its first president. Dr. Olga Stasny is now

president of the Association. Dr. L. Rosa H. Gnatt, president-elect.

Dr. Esther Lovejoy is chairman of the American Women's Hospitals. A committee of the Medical Woman's National Association was organized primarily for war service, but in continuous operation for the past twelve years staffing and operating a total of seventy-two hospitals, one of them with a two thousand, six hundred bed capacity for trachoma sufferers at Alexandropol, in connection with the Armenian Orphanage; three hundred and twenty-seven clinics, quarantine stations, camps for pestilential diseases, health and child welfare centers.

Over one thousand women physicians have been registered for service.

Practically all of the Near East Medical Relief Work has been done by the American Women's Hospitals.

Dr. Florence Sabin, member of the Rockefeller Institute for medical research and one of the greatest living scientists, received the annual award of $5,000.00 for the year of 1928 for her splendid contribution to medical science.

Some women physicians holding outstanding positions:

Dr. S. Josephine Baker, Stamford, Conn., organized first Child Health Division, New York City Department of Health.

Dr. Mable E. Gardner, Cincinnati, Ohio, woman physician and surgeon of Ohio. On staff at the University of Cincinnati Medical College.

Dr. Mary O'Malley, Washington, D. C., head of the Woman's Division, St. Elizabeth's Hospital, Washington, D. C.

Dr. Ellen C. Potter, Trenton, N. J., director, Department Institutions and Agencies, State of New Jersey.

Dr. Daisy M. O. Robinson, Albany, N. Y., lecturer, New York State Department of Health; Assistant Surgeon, United States Public Health Service.

Dr. Leda J. Stacy, Rochester, Minn., Assistant Professor of Medicine, Mayo Clinic.

Dr. Bertha Van Hoosen, Chicago, Ill., head of Obstetrical Department, Loyola University Medical School.

Dr. Rachelle Yarros, Chicago, Ill., head Department Social Hygiene, University of Illinois.

And so I might continue with the roster of medical women of distinction, who made their outstanding contribution to human welfare.

Some pioneer medical women:

Dr. Harriet Clisby, who recently celebrated her one hundredth birthday. She is the oldest living woman doctor in the world. Dr. Clisby was inspired by our own Dr. Elizabeth Blackwell to study medicine. She graduated in New York in 1865.

Dr. Julia McNutt, of Albany, N. Y., died recently at her home. She graduated at Bellevue Medical College in 1883. Dr. McNutt was the founder of the Margaret Fahnestock School for the training of young women in the care of infants.

Dr. Dora Ann Sweezey McGregor graduated from the Pennsylvania Woman's College in 1864 and died in Pennsylvania nearly 91 years of age; at the time of her death she was probably our oldest living link with the past history of women in medicine.

Dr. Mae H. Cardwell was the first woman on the staff of the Portland Hospital. Dr. Cardwell was the first to advocate smooth shaven face for the surgeon and the first to wear a cap in the operating room. She held many positions of honor and trust in the medical profession.

Dr. Hanna Longshore and her sisters were pioneer medical women also worthy of mention, and there were many others who helped pave the way for medical women of to-day.

SUMMARY OF MICHIGAN WOMEN PHYSICIANS

There are 237 medical women in Michigan; approximately 80 per cent in active practice. A large percentage belong to their County Medical Society.

The Blackwell Medical Society of Detroit is a group of medical women composed of physicians and surgeons organized to bring medical women into association with each other for their mutual advantage, and to encourage social and co-operative relations with the medical profession.

To be eligible for membership in the Blackwell Medical Society of Detroit, a doctor has to be a member of the Wayne County Medical Society. There are forty members in the society.

The University of Michigan Medical School became co-educational in 1870. It was the second medical school in the United States to admit women.

At that time the medical curriculum was of two years' length with a prerequisite of

each student having to spend one year with a medical practitioner before entrance to the medical school. About 538 women have graduated from the Michigan University Department of Medicine; and 107 from the Homeopathic Department.

The first woman graduate in 1871 was Amanda Sanford, who later became Mrs. Hicky. She died at Auburn, N. Y., October 17, 1894.

In 1872 there were seven women graduates, among them Dr. Helen Frances Warner, of Detroit.

In 1873 there were twelve graduates, Dr. S. Gertrude Banks, also of Detroit, being one of the class.

In 1930 there were six women graduates.

Dr. Jeanne Solis, of Ann Arbor, Mich., who has been for sixteen years on the medical faculty of the University of Michigan in the Neurology Department, in speaking of "Opportunities for Medical Women," at the University of Michigan, said, "Women are received in the Medical Department on the same conditions as men, and have received the same instruction."

At the present time, internships are open to the women, and we have now on the medical faculty women in the following capacities: an associate professor in anatomy, an instructor in anatomy, an assistant professor in materia medica, an instructor in pediatrics, and an acting instructor in surgery.

Dr. Leda J. Stacy, of the Gynecology Department of the Mayo Clinic, Rochester, Minn., who spoke on opportunities for women at the Mayo Clinic, said there have been women on the staff of the Mayo Foundation since the first group was formed. Dr. Booker Grainger was the first woman with this nucleus, and was the oculist of the Mayo Clinic for many years.

Since the establishment of the Mayo Foundation of the University of Minnesota in 1915, there are thirty-three women Fellows and four of these have remained as members of the staff. The Foundation provides for a three year post-graduate study for graduates of a Grade A school, who have completed a year's internship in a recognized hospital.

Many medical women from Michigan have taken post-graduate work at the Mayo Foundation.

The Detroit College of Medicine and Surgery is the only other medical college, with the exception of the Medical Department of the University of Michigan, which admits women in Michigan. The Detroit College of Medicine and Surgery became co-educational in 1917; since that time eleven women have been graduated.

At accredited A. M. A. hospitals in Michigan internships at the present time are open to women graduates from Class A colleges.

The greatest change in medicine for women in Michigan, as well as other states, is the greater opportunities they have in various lines.

Medical women in Michigan are serving as staff members in most of the Class A hospitals. There are twelve medical women on the staff of the Woman's Hospital, Detroit. Women are serving in municipal departments of health, of welfare and of labor and anesthetics. Dr. Myra Babcock, of Detroit, is a medical woman of Michigan who is outstanding in this field. Women are serving in public and private institutions for the mentally ill and feebleminded. Many are connected in teaching and executive capacities in the public school system, as medical examiners. Many are employed in commercial and industrial plants and social welfare organizations.

The first woman to practice medicine in Michigan in 1856, was Dr. Osborn, mother of Governor Chase Osborn.

Dr. Florence Huston was the first woman physician appointed on the staff of the Woman's Hospital, Detroit. She died in 1917.

Dr. Ann O'Dell, F.A.C.S., who specialized in eye, ear, nose and throat, was on the staff of Grace Hospital and the Woman's Hospital, Detroit. She died in 1924.

Dr. Florence Chadwick, A.C.P., a medical woman of ability, was on the staff of Harper Hospital and the Woman's Hospital. She died in 1929.

Dr. Bertha VanHoosen, one of the most noted women surgeons of the United States at the present time, took her M.D. degree in 1888 at the University of Michigan, and in 1912 received an honorary Master's degree for her achievements in surgery. Her research work and contributions to medicine are well known facts. One of the most interesting things to Michigan women is the fact Dr. VanHoosen began her career by being resident physician at the Woman's Hospital, Detroit.

Dr. Mary Thompson Stevens of Detroit, who graduated from Michigan in 1888, has given her help and interest for many years to the advancement of women in medicine and in all walks of life.

With the present status of medical women in Michigan, their future is assured.

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THE PREVENTION AND TREATMENT OF WHOOPING-COUGH

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There is no disease that takes so great a toll of infant life as whooping-cough. In the United States registration area of 1920 there was, in 1928, a total of 5,281 deaths from this disease, and of these 3,000 were in children under one year of age. In 1927, in a total of 6,254 deaths, 3,761 occurred under one year. The death rate of no other disease nearly approaches that of whooping-cough in this age group. In the past whooping-cough has taken an immense toll of life. In Prussia, in the five years from 1875 to 1880 almost 85,000 people died of it, and in England and Wales from 1858 to 1865 more than 120,000.

Table 1[1] shows the deaths under one year and under five years of age from whooping-cough, diphtheria, scarlet fever, and measles, in Michigan during 1928 and 1929. One sees that whooping-cough far outruns the others in the first year, and stands at or near the top under five years.

Table 2[2] shows the deaths from the same diseases per 100,000 population in the registration states of 1900, from 1900 to 1928. Although deaths from whooping-cough have noticeably lessened during this period of twenty-eight years, yet they do not show so great a reduction as those from scarlet fever or diphtheria. In spite of increased knowledge of the cause, prevention, and treatment of infectious diseases, whooping-cough remains the great scourge of infancy and an important cause of severe illness and of death throughout childhood.

DIAGNOSIS

The diagnosis of whooping-cough in the early stage is difficult and often is not made until the paroxysmal stage is reached. Coughs and colds are such common things that the beginning of anything serious is seldom associated with them. Parents are not readily aroused to anxiety and are reluctant to call a physician unless more alarming symptoms present themselves. Nor is there nearly the anxiety over the prospect of whooping-cough that there is over the prospect of diphtheria or scarlet fever. Among parents generally the seriousness of whooping-cough and its high mortality are not appreciated. The disease is thought of as something every child must have and must cough his way through. Indeed, a physician may not be called. A realization, on the part of parents, of the seriousness of this disease and the necessity for early diagnosis is a main requirement for reducing the havoc wrought by it.

In the early stages whooping-cough must be differentiated from other infections of the respiratory tract. Suspicion of the true nature of the malady is heightened if there is a history of exposure to a person known to have whooping-cough. A cough which persists for more than two weeks and which does not respond to sedative medicines should be thought of as whooping-cough until proved to be something else. Especially is this true of summer coughs. The name is a misnomer for some patients do not whoop, and in some the disease is so benign as hardly to raise the question of its being whooping-cough. Too much emphasis on the paroxysmal type of cough may lead one astray. In this connection should be mentioned paroxysmal sneezing as an equivalent of paroxysmal cough as reported by Reichle.[3] On the other hand paroxysmal cough occurs in other conditions.

The greatest help in diagnosis which is generally available is the demonstration of a lymphocytosis. During the early stage of

†For professional note see Journal M.S.M.S., October, 1929.

Table 1
Deaths in Michigan

Disease	1928		1929	
	Under one year	Under five years	Under one year	Under five years
Whooping-cough	130	212	158	250
Diphtheria	18	175	21	211
Scarlet Fever	6	90	12	72
Measles	83	235	30	111

Table 2
Deaths per 100,000 estimated population in Registration States of 1900

Disease	1900	1910	1911	1920	1921	1927	1928
Whooping-cough	12.2	10.7	10.6	11.9	8.3	4.8	5.2
Diphtheria	40.4	22.5	18.5	17.4	17.9	8.5	7.5
Scarlet Fever	9.6	12.2	8.9	5.2	6.4	2.7	2.2
Measles	13.4	12.6	9.3	10.2	4.3	1.9	5.5

the disease there is usually a well marked rise in the total leukocyte count, owing largely to an increase in small lymphocytes. In average cases there may be a count of 20,000 to 40,000 with 60 to 80 per cent of lymphocytes. An absence of this response, however, should not be taken to mean that whooping-cough is not present, for the examination may have been made before the rise began, and in mild cases the count may be only slightly above normal.

The isolation of the bacillus pertussis from the respiratory passages would, of course, establish the diagnosis. This procedure has not come into widespread use in this country. A method for showing the presence of the organism was introduced in 1916 by Chievitz and Meyer.[4] It has been used for some time by the Copenhagen Health Department. The method is as follows: Plates of media suitable for the growth of the bacillus pertussis are prepared. An uncovered plate is held three or four inches from the patient's mouth when he is expulsively coughing. If necessary, a cough may be elicited for this purpose. The plate is then incubated and is examined for colonies on the second day. Growth may not appear until the fifth or sixth day. A negative plate does not preclude a diagnosis of whooping-cough.

In the United States, Sauer and Hambrecht[5] among others have recently reported on the use of the cough plate in private practice. They said, "An analysis of 200 cases seen in private practice shows that the plate was positive in all but one of the fifty-three patients in the catarrhal stage, in seventy of 107 in the paroxysmal stage (65 per cent) and in none of forty in the decline period. These figures are in accord with those of the originators and of others who have reported on this method."

By this means a diagnosis may be made before the lymphocytosis appears. Availability of the method to practicing physicians would facilitate the recognition of whooping cough in its most infectious stage when measures to prevent its spread are most effective. Infants might be removed from the neighborhood of the infectious person in time to prevent their contracting the disease. While it is true that early diagnosis does not affect the course of whooping-cough, it does enable physicians and parents to become more quickly oriented on the problem and to plan for the many details of care which have much to do with the final outcome in a small child.

GENERAL CARE OF WHOOPING-COUGH

Whooping-cough is a disease that wins its victories by a process of attrition. It gradually wears down its victims until they are a ready prey to other ailments, especially the respiratory tract diseases that are so deadly to undernourished and poorly resistant infants. With this in mind the problem should be gone over thoroughly with the parents. They should be told what to expect, and plans should be laid for a prolonged campaign against the disease. Everything else in the home must come second to the care of the patient, or patients, as frequently whooping-cough goes through all the children in the family.

It should be the first consideration in the general care of a patient with whooping-cough to maintain his nutrition. For awhile little trouble may arise in feeding. But

there often comes a time when the child will not eat, or, if he does eat, vomits his food after a coughing spell. Children who lose much of their food should be refed. After a severe coughing spell there is usually a period of quiet during which the refed food may pass out of the stomach. It is often advantageous to thicken the feedings so that they will be less easily vomited. Thickened formulæ are used for infants and thick cereals and other foods for older children. If milk is not well retained it may be cooked into cereal. By concentrating foods in this way a smaller bulk is required and the chance of retention is greater. On the other hand it may be found that a liquid diet will more readily pass out of the stomach. The diet should contain the usual vitamines. Resistance is lessened from lack of these. Little babies, in particular, if deprived of cod liver oil, may rapidly develop rickets. Tetany may appear and is often, as Powers[6] has pointed out, the basis for convulsions in whooping-cough. The problem of feeding becomes so difficult at times that the usual feeding rules may have to be abandoned and the child fed whatever he will take whenever he will take it.

Children usually do better when plenty of fresh air is available. If the weather is suitable they should be encouraged to play in the stimulating outdoor air. They should be well wrapped, and their feet should be warm. They should not stay out to the point where they become over-fatigued, chilled or wet. Windows should be kept open at night. Yet, one will find children who cough less and rest better in a moist, warm atmosphere. At times the cough may be so prostrating that rest in bed throughout the day is advisable.

The strain of coughing is lessened by supporting the patient during the paroxysms, standing behind him with an arm around his abdomen and a hand supporting his forehead. An abdominal binder or an elastic bandage wound around the abdomen gives support and comfort to a cough racked child.

During the day children should play in places where they can vomit or cough out mucus without fear of soiling the surroundings, and, if in the house, where they can quickly reach a bathroom or sink. At night newspapers may be spread on the floor so that the patient may lean over the bedside to cough or vomit without undergoing the exertion of turning on a light or reaching for a basin. As much quiet as possible must be obtained. Violent activity, boisterous play or excessive laughter may precipitate the cough. Paroxysms are usually more severe at night than in the daytime and sometimes may be alarming. A low light helps the child to keep up his courage. When a paroxysm begins someone should immediately go to him. His misery is greatly intensified if he is left to suffer unattended.

DRUG THERAPY

The use of drugs in the treatment of whooping-cough is in no wise curative and is at best a palliative measure. Indeed, too great suppression of the cough is not advisable. There is a secretion of mucus into the bronchial tubes which must be got rid of. It is better to have mild paroxysms by means of which the lungs are freed of mucus at frequent intervals than infrequent violent ones during which the patient gasps for breath, turns blue, and finishes in an exhausted or collapsed condition.

Every physician has his own ideas of what drugs are of help in whooping-cough. Antipyrin is probably most widely used, and codeine, paregoric, the bromides, chloral, ephedrine, and belladonna in increasing doses, are of value. One drug sometimes helps when another does not. The main indications for checking the cough are to prevent hemorrhage, to enable the child to get more and regular sleep, and to diminish the frequency of vomiting. Ammonium chloride may be used to increase secretion and thin mucus. Atropine may be used to lessen secretion. One must beware lest the medicines upset the stomach and interfere with the ingestion of food. It is not well to use much medicine at first, for the time comes later when it will be more urgently needed. Medicated vapors, such as tincture of benzoin compound in steam, may be of more value than drugs taken internally. Nose drops of mild antiseptics or of shrinking solutions such as ephedrine may be used to clear the head in order to allow freer breathing. After a little experience intelligent parents may be relied upon to give whatever medicines are prescribed as the signs and symptoms warrant.

Among newer remedies, ether, introduced in France by Audrain in 1914, has proved to be of considerable value. It was at first given intramuscularly. This method is

painful and may be followed by necrosis. Rectal administration overcomes these disadvantages. A suitable mixture is one containing one part of ether and seven parts of olive oil. One-half ounce to one ounce (two to four cubic centimeters of ether) or more according to age may be given every four hours. In five to ten minutes the odor of ether appears on the breath, and considerable relief is frequently obtained. A two to four day period of treatment is alternated with a similar period of rest. The effect is said to persist through the rest period. There are children who are not able to retain the mixture and others whom the treatment does not help.

In this and other forms of medication patients must be considered individually. The treatment which helps one may not help another. McLorinan[7] has reported an interesting experiment from Australia in which no drug treatment was used for whooping-cough in a hospital for infectious diseases for a period of twelve months. The results were considered to be quite satisfactory.

VACCINE THERAPY

The value of vaccine is mooted. There are those who think it of the utmost value. Bloom[8] stated, "After thirteen years' observation and considering the fact that the author has followed many plans of treatment and different combinations of vaccines, this therapy in the management of whooping-cough is found to be the most efficacious in all respects. As a preventive, less than one per cent of those vaccinated have up to this time developed whooping-cough." Friedlander,[9] in Abt's Pediatrics, says, "It is not to be understood that vaccine therapy cures all cases at once, but properly used it certainly shortens the paroxysmal stage, diminishes the severity and frequency of the paroxysms, and wards off complications."

Others feel that vaccine is of little value. Sauer and Hambrecht[10] found that, "Three injections of potent vaccine did not prevent the disease in definitely exposed susceptible children. Vaccine therapy has had little if any influence in the course of the disease in 100 patients." Davison[11] summarized his review of the use of vaccine as follows: "In summing up the prolific and somewhat contradictory literature on this subject, it may be concluded that injections of Bordet-Gengou bacillus vaccines may have a slight though unreliable prophylactic effect, and that therapeutic inoculations are of practically no value. Further experiments are necessary to raise this procedure from the limbo of nonspecific therapy."

There are others, however, who take less extreme views, and they feel that while vaccine has no great therapeutic value it has a decided prophylactic value. Hess[12] concluded, "It would seem clear that none of the four vaccines, including the autogenous strain, was of value in curing or tempering the disease in the epidemic which existed in our institution." "However, the proportion of unvaccinated children who developed pertussis so greatly exceeded the number of those vaccinated who developed the disease that we conclude that the vaccine has protective value in a certain percentage of cases and that it should be employed in institutions and in families to prevent the spread of infection." Barenberg[13] found that, "It would seem almost certain that pertussis vaccine given even in large dosage not only has no curative effects but does not tend to lessen the severity of the disease." "In both the former epidemic and this one, the percentage of vaccinated children who developed the disease was considerably less than those who were not vaccinated."

The study of the effect of whooping-cough vaccine is beset with many difficulties. The uncertainty of diagnosis in mild cases; the type of disease, whether severe or benign; the amount of vaccine used and whether it is fresh or preserved; the geographical location; the fact that some children vaccinated may not be susceptible to whooping-cough; and the difficulty in securing adequate controls must all be considered in evaluating results. A convincing study was one made by Madsen,[14] the Danish authority on whooping-cough, in the Faroe Islands. In this remote place the disease appears periodically. In the epidemic of 1923 extensive prophylactic vaccination was practiced. The conditions were peculiarly suitable for making a test of whooping-cough vaccine. Madsen reported, "In the material from the epidemic we note 2,094 vaccinated patients with five deaths and 627 nonvaccinated with 18 deaths The mortality among the nonvaccinated is twelve times as great as among the vaccinated. Vaccination is, as a rule, most effective when given about a week before the disease breaks out." "The doctor at Klaksvig reports no deaths among 457 vaccinated

patients. Whooping-cough was mild, especially in the case of those patients showing a strong local reaction from the vaccine. There was an equally large control material from Klaksvig, namely, 450 non-vaccinated patients among whom were 11 deaths."

Madsen and others have noted that antibody formation, as shown by complement fixation, reaches a maximum about eight days after the last injection of vaccine. After this time the line of the curve begins to fall. In the case of patients who already have whooping-cough when vaccination is started, only a small increase in the quantity of antibodies is observed in response to the injection of vaccine. These serological observations suggest that vaccine has a prophylactic value but that it is of little use in therapeusis.

The nature of the vaccine is thought by some investigators to be of importance. Should only freshly made vaccine be used? Should a preservative be added? Is vaccine more or less effective when other organisms are included? Are autogenous vaccines better than stock vaccines? Opinions on these points vary. Southby[15] observed better results with straight pertussis vaccine than with a mixture of pertussis, pneumococcus, and micrococcus catarrhalis. Most of the reported work has been done with straight pertussis vaccine. It does not seem likely that the protective value of the vaccine would be enhanced by adding other organisms. The other questions need not concern those in practice, as only preserved vaccine, which is not fresh in the sense of being only a few days old, is generally available. Again, some think that better results are obtained by using a dosage sufficiently large to produce a local reaction. Commercial vaccines usually contain 4,000 million organisms per cubic centimeter, and, in the dosage advised, seldom cause a reaction. It is probable that the best results are obtained by larger doses and a greater number of them.

It is difficult for a physician to say whether or not vaccine prevents or helps the disease in a given case. It is undoubtedly the general feeling that it should be used for it does no harm and it may do good. One feels that anything which may give aid in treating this terrible disease is acceptable. Its use has a value, too, not intrinsic in the vaccine itself. During the period of administration the parents are kept in contact with the doctor, who may use this time to teach them how to live with whooping-cough until it goes away.

ROENTGEN-RAY THERAPY

The roentgen ray has recently been used in the treatment of whooping-cough. Bowditch, Leonard, and Smith[16] published work which showed the beneficial effect of this treatment. Then followed work by Faber and Struble,[17] who concluded that the roentgen ray had no value in the treatment of whooping-cough. Even if there were no question of its value, this form of therapy would be difficult to apply, for patients would have to be taken from their homes to the doctor's office in violation of quarantine rules, and other patients might be unnecessarily exposed to the contagion.

SERUM THERAPY

The use of serum in whooping-cough has interesting possibilities. The work published along this line comes from European clinics. Bordet and Gengou[14] produced a whooping-cough serum in the usual way by immunizing animals with bacilli, but the results obtained from its use were far from satisfactory.

Accounts of the successful use of human serum and whole blood are found in the French literature. Méry and Girard[18] reported the use of whole citrated blood for a child who contracted whooping-cough at two months of age. The attack was severe and in two months time the child was in grave condition. At this point two injections of the mother's blood, five cubic centimeters and ten cubic centimeters two days apart, were given. Marked improvement was seen after the first injection and the baby went on to rapid recovery. Debré[19] studied the use of whooping-cough convalescent serum. Children who were undoubtedly exposed to others with the disease were given two to three cubic centimeters of pooled serum taken during the fourth week of illness. It had been found that complement fixation reached its highest point at this time. Of forty infants, thirty-one were entirely protected; six had a mild infection; and three had the usual attack. Debré concluded from an analysis of his cases that if serum is injected before the end of the incubation period the onset of illness is prevented; if injected at the end of the incubation period the disease appears in

mild form; if given during the invasion period the disease is not affected.

The intramuscular injection of 10 to 20 cubic centimeters of convalescent whole blood without citrate was not found by Lesné and Pétot[20] to have any effect in reducing the number and intensity of paroxysms but had a marked beneficial effect in whooping-cough broncho-pneumonia. The treatments were given at a hospital for infectious diseases, over a period of several months. Gillot[21] used subcutaneous injections of whole blood for the prophylaxis of whooping-cough. In a series of children from one month to six years of age injections were made with the blood of persons who had had whooping-cough a long time before. Four children injected before the catarrhal stage began were completely protected; two injected during the catarrhal stage suffered from a benign form of the disease. In another series the blood was drawn from fathers and mothers without whooping-cough history. Six children injected before the catarrhal stage escaped the disease; five injected during the catarrhal stage had the disease in mild form. The dose of blood varied from two to five cubic centimeters, the larger doses being used for the older children.

If the beneficial effects observed by the French clinicians are confirmed, the use of convalescent serum and of whole blood, and even of blood from persons having had whooping-cough some time before, will give us a powerful weapon in the prophylaxis and treatment of this disease.

CONCLUSION

In summarizing present knowledge of the prevention and treatment of whooping-cough certain outstanding points may be emphasized. Prophylaxis is best obtained by early diagnosis and the immediate removal of the patients from susceptible contacts. Pertussis vaccine may protect those exposed if they have not reached the catarrhal stage. Convalescent human serum or whole blood gives promise of being a helpful agent. Relief from the disease and its ravages lies more in prevention than in cure. Much can be done to help a child ill with whooping-cough but no specific curative agent has yet been developed. The ravages of the disease on child life makes it a problem which demands our careful attention.

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TRAUMA AND DEMENTIA PARALYTICA

Joseph V. Klauder, Philadelphia, and Harry C. Solomon, Boston (*Journal A. M. A.*, Jan. 3, 1931), discuss the etiology of dementia paralytica, the onset and evolution of early dementia paralytica, trauma in determining the localization of syphilitic lesions in human syphilis, trauma in determining the localization of syphilitic lesions experimentally in rabbit syphilis, statistical studies regarding the relation of trauma to dementia paralytica, the rôle of trauma in causation of dementia paralytica, the limits of the time elapsing between the trauma and the onset of dementia paralytica which would logically incriminate trauma as playing an etiologic rôle, and the medicolegal status of the relation of trauma to dementia paralytica. The authors urge that each case must be considered on its own merits and the physician must try to evaluate (1) the effect of the trauma on the intracranial contents, (2) the meaning of symptoms during the intercalary period, and (3) the probable modification of the patient's usefulness and longevity.

CHRONIC NEPHRITIS IN CHILDREN*

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While acute nephritis of the hemorrhagic type is of common incidence in children, chronic nephritis is comparatively rare early in life. Why adults have chronic nephritis much more frequently is intelligible when one considers that adults with this condition are usually individuals suffering with generalized vascular disease inherent to advancing years, the renal involvement being but a secondary manifestation.

In discussing any classification of chronic nephritis one must always be mindful of the age-old controversies between the clinician, pathologist, and physiologist. No one classification has ever been evolved which would at once satisfy all three. For one can never be certain in his prediction of the anatomical picture from the clinical findings, and vice versa. For practical purposes, however, a simple clinical classification, such as that proposed by Christian,[1] seems satisfactory. He divides chronic nephritis into three main types:

1. Chronic nephritis with edema.
2. Chronic nephritis without edema.
3. Vascular hypertension progressing into nephritis.

While this classification was designed primarily for adults, it is, in general, applicable to children. For the sake of convenience, I shall discuss, in their reversed order, these various types as they occur in children.

Vascular Hypertension with Secondary Renal Involvement.—As already indicated, vascular disease with secondary renal changes is rare in children. Amberg,[2] studying hypertension in children at the Mayo Clinic for a period of eight years, observed only 25 cases, 17 of which gave some evidence of renal impairment. This series included three cases of peripheral arteriosclerosis and only one case corresponded to the essential hypertension of adults.

In connection with hypertension in children, it is interesting to note that a polycystic kidney can produce extreme hypertension without any evidence of renal impairment. Such a case was reported by Cowie.[3] The patient was a boy of 8 years with a polycystic kidney. He had evidence of hypertension over a long period of time with frequent headaches, vomiting, and neuroretinitis. His blood pressure was 220/110 to 230/180. No evidence of renal impairment could be found, however, in the usual blood, urinary, and functional examinations. Removal of the polycystic kidney resulted in a remarkable drop of the blood pressure to practically normal.

Chromic Nephritis without Edema.—In anatomical terminology, the pathological equivalent for this clinical designation is chronic interstitial nephritis. Most commonly, it represents the end stage of a primary chronic nephritis, although the picture is often indistinguishable from the renal involvement secondary to vascular disease. As in adults, the outstanding features of this type are: Absence of edema, hypertension, cardiac hypertrophy, a tendency to uremia, and evidence of marked renal impairment. This picture is the result of a gradual development, the patients usually dying in uremia. The hypertension in these cases may be surprisingly high. Among the nephritic children observed at the University Clinic, one six year old child with interstitial nephritis had a blood pressure of 240/175; another child of eleven years had a blood pressure of 270/100.

There is another type of interstitial nephritis which is considered a clinical-pathological entity, the characteristic features of which are the association of a chronic interstitial nephritis of obscure origin with retardation of growth, delay in sex development, and the presence of rickets. It is known both under the term of renal dwarfism and renal rickets. Although the combination of nephritis, dwarfism, and bony deformities had been recognized for about fifty years, it was not until comparatively recently[4] that the real significance of

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the relationship of renal disease and rickets was stressed. Recent investigations by Schoenthal and Burpee[5] suggest that the rickets is probably the result of a long-standing acidosis. A case of renal rickets studied recently in this Clinic has led us to the same impression. The rickets usually is of the low-calcium type. Usually there is a phosphate retention in the blood; this increase in the phosphates being an expression of severe renal damage. The development of the nephritis is often obscure. In some cases, the nephritis seems to be of congenital origin. Not only interstitial nephritis, but other renal conditions, such as polycystic kidney, may be associated with rickets. This disease is rather uncommon. Mitchell[6] in a recent review of the subject found a total of seventy-six cases. It is interesting to point out that ordinary anti-rachitic therapy is usually of no benefit.

Chronic Nephritis with Edema. — This type of nephritis has often been described by the general term, chronic parenchymatous nephritis. More specifically, depending upon which element in the kidney unit is predominatingly involved, the anatomical terms chronic glomerulonephritis or chronic tubular nephritis have been used. As is true of the large majority of the cases, renal damage involves both the glomerular and tubular elements so that the condition is most commonly a chronic glomerulo-tubular nephritis. The terms *genuine nephrosis* (Volhard and Fahr), *chronic nephrosis* (Epstein), and *lipoid nephrosis* (Munk) have all been introduced to designate that symptom-complex associated with the degenerative renal lesion limited primarily to the tubular elements.

In chronic nephritis with edema several important clinical features may be considered: *Edema, albuminuria, hypertension, hematuria, changes in the blood chemistry* and *basal metabolism.*

Edema.—The edema in these cases is most commonly not a constant affair, but tends to be recurrent, reappearing with acute exacerbations in the course of the disease, especially coincident with the development of acute infections of the upper respiratory passages, ears, and accessory sinuses. If the child does not die during an edematous stage, the edema will disappear either as the result of treatment or of natural recovery. The longest time we have seen edema persist continuously was in a child in whom edema persisted in varying degrees for about a year. Often it is difficult to ascertain how much of the edema is of renal origin and how much of it is cardiac. An interesting relationship is that between renal edema and the concentration of the blood proteins. Normally the total serum proteins vary from approximately 6.5 to 8.0 per cent. A lowered total serum protein is almost invariably found when edema is present. Usually, it will be below 5 per cent.[7]* However, the total serum protein may be considerably below 5 per cent in edema-free stages of the disease. In an edema-free stage in one of our cases, the total serum protein was as low as 3.8 per cent.[22] The diminution in the serum proteins means a proportional diminution in the colloidal osmotic pressure, with the resultant tendency to deposition of fluid in the tissues, a physiological fact stressed many years ago by Starling.[8]

Albuminuria.—The coincidence of edema and a lowered blood protein in these cases of nephritis is thought to be linked up with an excessive loss of protein through the kidneys. The total blood protein consists chiefly of albumin and globulin; normally there is twice as much albumin as globulin. A marked albuminuria is one of the characteristic features of chronic nephritis of the nephrosis type. This loss may amount to as much as approximately 20 gm. daily in a small child. As much as 50 gm. loss of albumin daily has been reported in adults. Since the total blood proteins is a little more than four times this much, according to Epstein, such a loss must be a serious drain, and analysis of the serum protein gives evidence of this. The lowered serum protein is found to be decreased at the expense of the albumin fraction. The globulin concentration is either within normal limits or may be slightly increased. It seems that the globulin molecule is too large to pass through the glomerular membrane.[22] Thus, we find a reversal of the ratio of albumin to globulin.

Hypertension.—Hypertension in chronic nephritis with edema is found most frequently during the acute stages or flare-ups in the course of the disease. As the process becomes subacute or chronic the blood pressure may be only slightly elevated or with-

*Since the diminution of serum protein is primarily due to the decrease in the albumin fraction, it is more accurate to relate edema tendency to the fall in serum albumin. According to Moore and Van Slyke (J. Clin. Invest., 8:337, 1930), edema tends to appear when the serum albumin, normally averaging 4.3 per cent, falls below 2.3 to 2.7 per cent.

in normal limits. As this disease progresses into an interstitial or terminal phase of nephritis the blood pressure begins to mount.

Hematuria.—Hematuria denotes glomerular damage and, in the course of chronic nephritis, is evidence of an active process. Usually hematuria occurs early in the disease or in acute exacerbations. It is remarkable how long a gross hematuria may persist in some cases. A nephritic child under our observation had a marked gross hematuria for about 7 months, as the result of which he developed a rather severe secondary anemia necessitating eight transfusions over this period of time. At present, about a year since the onset of an acute hemorrhagic nephritis, he still shows a microscopic hematuria, along with many of the features usually described as criteria of nephrosis.

Cholesterolemia.—As with the blood proteins, the cholesterol concentration seems also to have a definite relationship to the occurrence of edema, but in a converse manner. Whereas, in these cases, the serum proteins are diminished, the cholesterol is invariably increased in presence of edema. In fact, not only is the cholesterol content elevated in chronic nephritis, with edema, but an increase, though to a much smaller degree, has been noted consistently in acute nephritis with edema.[9] Thus, it would seem that these changes, both in the blood protein and cholesterol, are concomitants of renal edema. It is probably incorrect to relate renal edema and these changes as cause and effect, since a considerably lowered serum protein or a high cholesterolemia are both frequently found in absence of edema. A high cholesterol finding may be present long after the edema has disappeared. In a child with a nephrosis picture, we found[22] a cholesterol of 570 mg. almost two years after the disappearance of his edema. In another child who had passed into an interstitial phase of nephritis we found a cholesterol of 610 mg. It is interesting to note that a gradual or sudden decrease from a previously high to a normal or subnormal cholesterol may be considered as a forerunner of uremia.[9] Of the physiology of cholesterol, we know comparatively little. We find cholesterol increased not only in nephritis, but also in severe diabetes, pregnancy, and obstructive jaundice. It is often decreased in many acute infections, anemia and malignant disease. The idea that in nephritis the blood cholesterol content is elevated due to an inability to burn fat, as in diabetes, has been disproved in Van Slyke's Clinic.[10] where it was found that nephritics can utilize fat as do normal individuals. The doubly refracting lipoids found in the urine in these cases probably can be explained by the appearance in the urine of disintegrated renal cells in which cholesterol had been deposited. The finding of these lipoid bodies in the urine has been considered as pathognomonic of lipoid nephrosis, but it is now known that they may also be found in chronic and also in acute glomerulonephritis.[11] It has also been shown that not all the doubly refracting bodies in the urine are of a fatty nature.

Blood Calcium and Phosphorus.—The changes in the blood calcium and phosphorus are also interesting. In certain phases of chronic nephritis one is apt to find a lowered serum calcium. This lowering of the calcium of the blood is not accompanied by the development of tetany, since in tetany the reduction of the serum calcium is due to a diminution of ionized calcium, whereas in chronic nephritis, the reduction is due to a decrease in the unionized or combined calcium.[12] A reciprocal relationship appears to exist between the serum calcium, phosphorus, and total proteins.[13] The concentration of serum calcium varies directly with the concentration of protein inversely to the concentration of phosphorus. A mounting phosphate retention in the blood is indicative of an increasing renal insufficiency.

Basal Metabolism.—A lowered basal metabolic rate has often been reported in chronic nephritis with edema, particularly of the nephrosis type. This finding has been taken as evidence in favor of the idea that nephrosis is primarily of extrarenal origin. However, it is probable that in most of these findings no due regard was paid to the fact that edema, by increasing surface area, will lower the determination if the weight of the edema is not discounted. It has been reported[14] that the basal metabolic rate is unusually normal, if calculations are based upon the normal weight of the individual. In one case, which fulfilled practically all the criteria for nephrosis, we found for a long period, a persistently elevated basal metabolic rate. The highest determination in this child, allowing for edema, was + 30 per cent.[22]

Relationship of Nephrosis to Nephritis.—

The term nephrosis is employed to represent what is considered by many to be a disease entity quite apart from ordinary nephritis. It was first introduced by Müller to represent the degenerative process which was thought to be limited to the tubular elements of the kidney unit, in contradistinction to the usual inflammatory lesions of glomerulonephritis. Clinically, the representative picture of nephrosis is characterized by massive edema with periods of remission, a persistent, usually marked albuminuria, a cholesterolemia, a lowered serum protein with a reversal of the albumin-globulin ratio, a lowered basal metabolic rate, and the detection of doubly refracting bodies in the urine. Hematuria, hypertension and retention of nitrogenous waste-products in the blood are all supposed to be characteristically absent.

It has been maintained that nephrosis is of extrarenal origin and that the kidney lesion is but a secondary phenomenon. There is growing belief, and considerable, strong evidence to support it, that so-called nephrosis is but a symptom-complex, a stage in the course of chronic nephritis. This evidence may be briefly summarized:

1. Cases have been observed in which the process has been seen to begin as an acute glomerulonephritis and gradually assume the picture of nephrosis.[15]

2. Cases of chronic nephritis, dying in uremia and revealing at autopsy glomerulonephritis, have presented during the clinical course of the disease a characteristic picture of nephrosis.[16] The reason that so many cases are seen at autopsy with the degenerative lesions of nephrosis may be due to the fact that many of these cases die of intercurrent infection and, strangely, it is a pneumococcus peritonitis with which these patients die (approximately 50 per cent). Therefore, we can only conjecture in these cases what the final picture of the kidneys would have presented, had not intercurrent infection interposed.

3. The lowered serum protein and the cholesterolemia, singly or in combination, cannot be regarded as diagnostic criteria of nephrosis, since these changes are rather concomitants of renal edema, irrespective of the type of renal pathology.

4. The finding of doubly refracting bodies in the urine cannot be used as a pathognomonic sign of lipoid nephrosis, since they have been demonstrated in the urine of cases of glomerulonephritis.

5. The lowered basal metabolic rate reported in these cases would probably have been found to be within normal limits in a considerable number of instances, had allowance been made for the weight of the edema.

6. Recent special studies in microscopic renal pathology by Bell[17] show that there is evidence of glomerular damage in these cases of nephrosis. The persistent, excessive loss of albumin through the kidneys is dependent on a preceding glomerular damage which leaves usually a permanent functional change in the glomerular capillary membrane.[18] The great loss of albumin seen in many of these cases is, as Christian[19] states, much greater than that which might come from degenerating tubules. In realty then, the albuminuria with its resultant depletion of blood protein and the tendency to edema seen in nephrosis, points back to an earlier glomerular change rather than being primarily an expression of a tubular degeneration.

7. Experimentally,[20] the picture of nephrosis has been reproduced in dogs through the removal of blood proteins by bleeding and the replacement merely of the cellular elements, indicating, further, that drainage of the blood protein may be the underlying factor in nephrosis.

Protein Requirements in Nephritis.—It has long been the custom to restrict protein in the diet of nephritic patients without due regard to the type of nephritis. In the light of our present knowledge of the relationship of protein depletion from the body to the genesis of renal edema, it may be rightly questioned whether this is a wise procedure.[21] A child with an excessive albuminuria and a lowered serum protein, but with a normal nonprotein nitrogen, should receive an adequate amount of protein in its diet to offset the ill effects of protein deprivation. In nitrogen balance experiments[22] it is found that if these cases previously on a low protein diet are given adequate protein, a change from a negative to a marked positive balance will ensue without any increase in the nonprotein nitrogen of the blood, indicating that the organism by the avidity with which it stores protein under these conditions has actually been suffering from protein starvation. Furthermore, it must be remembered that the growing child requires considerably more protein than adults.

Obviously, there are circumstances in the course of nephritis in which a minimal amount of protein is indicated. A condition in which there is an appreciable elevation or mounting retention of the blood nonprotein nitrogen, calls for protein restriction.

Just how much protein a nephritic child should get in its diet will depend upon how much will be necessary to keep it in a positive balance. While, of course, nitrogen balance determination for the individual case is impracticable, nevertheless, one can be governed by the degree of albuminuria and the serum protein concentration. In our nitrogen metabolism experiments,[22] we have found that approximately 1.0 gram of protein per pound of body weight is a sufficiently safe margin. The ideal, then, that should be striven for in the question of how much protein to give these nephritic children, is neither a restriction of protein, nor necessarily a high protein content in the diet, but rather an adequate amount of protein, defined as that amount safely sufficient to maintain the child in a positive nitrogen balance.

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SUBARACHNOID HEMORRHAGE OCCURRING IN SYPHILIS*

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The diagnosis of subarachnoid hemorrhage is made more frequently today than it was before the beginning of the present century. This may be attributed to the fact that the lumbar puncture has become an effectual method for diagnosis and treatment. The condition may not be fatal if care is taken to determine the cause and to treat the disease in its early stages.

Hemorrhage into the subarachnoid space may be due to aneurysm, trauma, syphilis, hemophilia, scurvy, meningitis, brain tumor, embolism, thrombosis, anthrax, coitus, straining at the stool, alcoholism, etc. Symonds[1] suggests the following as possible ways for blood to enter into the subarachnoid space: an effusion originating within the subdural space rupturing the arachnoid membrane; hemorrhage into the superficial parts of the nervous substance breaking through the pia mater; deeply situated cerebral hemorrhage entering the subarachnoid space by effusion; and hemorrhage from one of the vessels lying in the subarachnoid space. He found that in an analysis of 127 cases, 10 were due to syphilis. Sands[2] believes that neurosyphilis complicated by subarachnoid hemorrhage is a clinical entity and that it is probably caused by the rupture of diseased pial capillaries. The pathological process

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of the blood vessels in syphilis has been summarized by Turnbull[3] as follows:

"When the smaller muscular and elastic arteries are the seat of syphilitic inflammation, endarteritis is usually a marked figure, the lumen becoming almost obliterated. It is clear that in such a condition aneurysmal dilatation is excluded. In some cases of intense inflammation with necrosis the adventitia and media become greatly weakened before the intima has greatly thickened; in such cases aneurysmal dilatation might occur, but in my experience such intense inflammation has led to rupture of false aneurysm and not to true aneurysm."

The symptoms of subarachnoid hemorrhage, as a rule, come on suddenly. The onset of the condition is usually manifested by a complaint of headache followed by drowsiness, stupor, or coma. Occasionally the cranial nerves are involved and there may be a partial or complete hemiplegia. There are usually signs of meningitis. The tendon reflexes frequently are diminished or absent; however, in some cases they may be increased. The diagnosis is often difficult to make, as the clinical findings are apt to be confusing and a history may not be obtainable.

The case reported is one of subarachnoid hemorrhage. It is of special interest first, because there was a history of treated syphilis; second, the onset of the disease followed copulation; third, there was difficulty in making a diagnosis; fourth, the patient evidently made a complete recovery.

B. M., a female, twenty-three years of age, upon admittance to the neurological service of the University Hospital complained of drowsiness and a severe frontal headache. She stated that for the past year she had had a Neisserian infection and that five months ago she had skin lesions and a positive blood test for syphilis. Subsequently, she received twelve intravenous and six intramuscular injections for syphilis. This treatment was completed two months before the present illness and until now the patient had no complaints. Two days before admission to the hospital she was unconscious for eight hours following intercourse. There was no history of trauma.

On examination she was drowsy and appeared to be in pain. The temperature was 98° F., pulse 102, and respirations 24. The pupils did not react to light, but did react in accommodation. The extraocular movements were normal and there was no nystagmus. There was marked photophobia. The ocular fundi showed a choked disc of four diopters in the right eye and two diopters in the left eye, with small hemorrhages in both retinæ. There was no paralysis of the face or tongue. The neck was rigid. The ears showed no evidence of recent infection. The biceps and triceps reflexes were present, equal and diminished. The knee and Achilles reflexes were present, equal, and markedly diminished. Plantar irritation caused flexion of the toes on both sides. Kernig's sign was present. Vaginal examination showed a foul discharge. Gonococci were not found. X-ray studies of the skull showed old sclerotic mastoids. A lumbar puncture demonstrated a spinal fluid pressure of 290 millimeters of water. The spinal fluid was bloody and on centrifuging, the supernatant fluid was xanthochromatic. The fluid did not coagulate. There was a four plus globulin and a negative Kahn reaction. The colloidal gold curve was 3132210000. No organisms were found on direct examination and the cultures showed no growth. The urine had a two plus albumin, 30-40 white blood cells, many organisms, and no casts. The blood Kahn reaction was negative.

The patient received daily for the first three days spinal fluid drainages, the quantity withdrawn varying from thirty to sixty cubic centimeters. On the third day, the fluid was of a slightly yellow tinge, and as there appeared to be no more hemorrhage into the subarachnoid space, the treatment was discontinued. The only other medication the patient received was increasing doses of potassium iodide. During the next two weeks the papilledema gradually subsided to negligible swelling of the optic discs and the patient became asymptomatic and at discharge had no apparent residual from her subarachnoid hemorrhage.

DISCUSSION

The diseases considered in the differential diagnoses were meningitis, hemorrhage from a brain tumor, and subarachnoid hemorrhage. The fact that the first condition was present was evident from both the clinical and laboratory examinations. However, it appeared to be aseptic meningitis as no organisms could be found in the spinal fluid, and the patient's temperature was normal. Hemorrhage from a brain tumor was possible especially because of the presence of choked disc, so it was difficult to discard this diagnosis. There was an increase in intracranial pressure which could result from any of the three conditions. The fact that there was a history of syphilis, and that the condition was preceded by emotional strain, led to the probability that a weakened luetic blood vessel had ruptured into the subarachnoid space, which was manifested clinically by bloody spinal fluid. This probability was strengthened by the fact that there were no localizing signs and that the tendon reflexes were diminished.

CONCLUSIONS

The hemorrhage into the subarachnoid space, in this case, was probably the result of the pathological changes in the blood vessels brought about by syphilis. The predisposing factor causing the rupture of the blood vessel was undoubtedly due to an increase in pressure on the vascular system from the excitement.

The increased intracranial pressure was reduced and the blood in the subarachnoid space was removed by spinal drainage.

The anti-leutic therapy the patient obtained prior to her admission to the University Hospital is probably the reason why the positive history of syphilis did not agree with the negative serological tests.

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GALL BLADDER DISEASES, DIAGNOSIS AND INDICATIONS FOR OPERATION

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To the real student the interest in any branch of medicine lies, to a great extent, in the progress of knowledge in that branch. Interest wanes when such progress is not evident. No subject in medicine better demonstrates milestones of progress during the past decade than does the new knowledge of gall bladder disease diagnosis. Very material strides have been made, especially in the early diagnosis. My first medical textbook was Osler's "Practice of Medicine" written in 1904. A survey of the knowledge then compared with that of twenty-five years later shows marked advance, not only in the field of diagnosis, but also in treatment, both by direct and indirect attack.

The classification of disease, however, remains practically the same except for the addition of chronic cholecystitis, which we now know forms a large and important group. It might be well to visualize the classification made at that time. In view of our knowledge today it seems strange that chronic cholecystitis was not included in this group.

Osler at that time described:

a. Acute catarrh of the bile ducts (catarrhal jaundice).
b. Chronic catarrhal angiocholitis. He stated that this always accompanied obstruction to the common duct due to stones, cancer stricture, or external pressure.
c. Suppurative and ulcerative angiocholitis, —the most serious sequel of gall stones.
d. Acute infectious cholecystitis—associated with or without gall stones. (Acute non-calculous cholecystitis he felt was a result of bacterial invasion—colon bacillus—typhoid bacillus—pneumococci, staphylococci or streptococci being the organisms then most often found.)
e. Cancer of the bile passages.
f. Stenosis and obstruction of the bile ducts. (Stenosis may follow ulceration after the passage of a stone.)
g. Cholelithiasis.

As stated above, today we find only the addition of chronic cholecystitis.

In this paper we are more concerned with those gall bladder conditions requiring surgical intervention and with advances made in their diagnoses. The most common and outstanding condition requiring such intervention is gall stones in the gall bladder or ducts, a condition almost always associated with cholecystitis.

In the majority of people, stones in the gall bladder cause no recognizable symptoms except when these stones are passing through or are obstructing the duct. Twenty-five years ago the diagnosis of gall stones was made on the history of biliary colic, agonizing pain in the right hypochondriac region radiating to the shoulder or through the epigastrium and lower thoracic region. This was often associated with vomiting, chills and fever. Jaundice was present in only about one fourth of all cases. Depression of the circulation or mild shock sometimes occurred.

The diagnosis with the above symptoms was easy, especially if there was a history of recurring attacks. The diagnosis was made still easier if the attacks were accompanied by jaundice and the absence of bile in the stools.

The physical examination in acute cases

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showed signs ranging from slight pain on deep pressure to extreme pain with muscle spasm depending on the amount of inflammation present. The gall bladder was at times palpable when there was an empyema or hydrops resulting from stoppage of the common or cystic duct.

Osler in this text of twenty-five years ago did not mention X-ray examinations or leukocytosis as a help in diagnosis. He did mention that acute cholecystitis may sometimes be difficult to recognize if there is no history of previous attacks, for in some cases there are no localizing signs.

He makes no classification of chronic cholecystitis. This condition is now fairly well known and frequently is treated surgically with marked benefit to the patient.

The rules for diagnosis twenty-five years ago are just as good today as then. They will lead to the diagnosing of just as many cases, but they also will miss as many. Undoubtedly, through the force of circumstances, these rules must be the only ones used by the general practitioner throughout the country today, but centers are constantly becoming more numerous and available to all physicians, where the more technical work of the advanced methods of diagnoses can be carried out. Patients may be saved great risks of subsequent complications if earlier diagnoses could be made and treatment instituted.

Osler wrote in 1904 that disease of the gall bladder must be differentiated from gastralgia, a condition that we now seldom hear mentioned as such. It has been replaced by pylorospasm, reverse peristalsis, chronic colitis or irritable colon, etc., nevertheless, evidences of a functional neurosis.

Table I shows the relative frequency of symptoms in a series of 766 cholecystectomies.

Table I

SYMPTOMS

Relative Frequency in this Series

Pain	615
Belching, bloating	401
Nausea	319
Vomiting	193
Constipation	175
Jaundice	168
Weight loss	76
Fever	76
Chills	61
Heartburn	54
Headache	51
Vertigo	50
Nervousness	38

It may be of interest to give also Table II showing the pathological findings in these 766 cases operated upon.

Table II

PATHOLOGICAL DATA

Cholecystitis chronic		646
Cholelithiasis	328	
Catarrhal cholecystitis	69	
Strawberry gall bladder	19	
Calcified gall bladder	2	
Papillomatous gall bladder	1	
Normal gall bladder	2	
Cholecystitis acute or subacute		120
Cholelithiasis	102	
Acute exacerbation	29	
Gangrenous gall bladder	18	
Perforated gangrenous	8	

We can today make a much earlier diagnosis of gall bladder disease, and hence more frequent, due to two new methods which have both been described and worked out since the great war. The first of these is with the X-ray and the opaque dye—tetraiodophenolphthalein, described by Graham, Cophir and Cole 1924.[1] Before the use of this dye, X-ray pictures showed only the more dense calcium stones.

John Mateer and W. S. Henderson[2] in 1926 reported in a series of 590 cases studied by cholecystography as well as by duodenal drainage, sixty-four cases with proved gall tract disease operated on by us. The earlier method of intravenous administration of dye while good as far as the pictures were concerned, caused disagreeable reactions in some patients. The oral administration of tetraiodophenolphthalein was then used. This proved just about as satisfactory in end-results and was much easier on the patients.

Of the 590 cases so studied by them, sixty-four had been operated upon at the time their paper was written. Of these, twenty-seven had no gall bladder shadow with the dye. Operation showed 92.6 per cent correct X-ray diagnoses as twenty-five had stones or diseased gall bladder. Thirteen cases had faint shadow and operation again showed X-ray diagnoses 92.3 per cent correct.

Five cases in the series showed negative gall stone shadows and operation confirmed this 100 per cent. In the series, with studies confirmed at operation, the total cholecystogram diagnosis was 88.1 per cent correct.

Many reports have been published on the value of cholecystography by this method and all agree that it marks a great advance.

The second great contribution to early

diagnosis of gall tract disease has come through the use of the Rehfuss tube. Microscopic studies of the bile obtained in this way after stimulation reveals many secrets. This work received its great stimulus from the work of Lyon.[3] The method has been retarded somewhat I believe by disappointing results in bacteriological studies. The reaction following the over-enthusiasm of those who were using medical drainage of the gall bladder as a means of therapy in the treatment of gall stones also had its effect. Certainly this so called medical drainage makes a great psychic weapon. The patients are all duly impressed for they can see in the bottle the A bile from the common duct, the darker B bile from the gall bladder, as it comes out, and the yellow C bile from the liver ducts. However, the pendulum has swung back from this widespread use of the duodenal tube for therapeutic drainage, and the great value of the method in diagnosis is becoming more and more apparent.

Piersol-Bockus and Shay,[4] 1928, from the University of Pennsylvania, have written a paper, "to emphasize the importance of the examination of bile sediment in particular and bile drainage generally in the diagnosis of gall-stone disease." There is plenty of proof now that the B bile is dark because it contains concentrated bile from the gall bladder. They emphasize the importance of more than one duodenal drainage study if the first one is negative and also point out the importance of the calcium bilirubinate pigment—an amorphous granular precipitate, ranging from a lustrous golden yellow to deep orange. It is present in a very high percentage of the stone cases—73.8 per cent show this pigment and cholesterin crystals. In the majority of cases these elements were found only in the dark B bile.

Gall stones can be diagnosed in 73.8 per cent of the cases from biliary drainage findings, as compared with a total cholecystographic diagnosis of 35 per cent in the best hands. The value of biliary drainage is therefore quite apparent.

A preoperative estimate of gall bladder function from duodenal tube proved correct in 88 per cent. On the other hand oral cholecystography was found correct in only 65 per cent of the cases, according to Piersol-Bockin and Shay.

I cite the report of these men, for in our clinic in the hands of Mateer, we also find that with the microscopical studies of bile obtained through the duodenal tube (especially in the finding of cholesterin crystals and calcium bilirubinate pigment), a positive diagnosis of gall stones can be made and with about twice the frequency of positive oral cholecystography. Sometimes B bile cannot be obtained, and this is presumptive evidence of definite gall bladder disease, if this finding is constant.

The finding of pus cells and columnar epithelium if bile stained indicates inflammation probably of the ducts, but is not diagnostic of stones or cholecystitis.

While we emphasize the importance of these two new advanced methods of diagnosis, it must be borne in mind that they only substantiate clinical evidence, which may be very positive or sometimes only faintly suspicious.

INDICATIONS

The one great group of unsolved cases and one which is pretty sure to affect each of us personally, if one is fortunate enough to live long enough, is the chronic degenerative disease group. It is believed by many that chronic foci of infection constantly but slowly feeding toxins to the system, offer a tangible cause for degenerative changes. Such foci may lurk for years in root abscesses, tonsils, sinuses or gall bladder. This knowledge is general and it is common practice almost everywhere today to clear up such infections around the mouth, tonsils and sinuses. There is still some hesitation in advising the clearing up of such infection around the gall bladder surgically, mainly I believe because it means a major operation still attended in the hands of most surgeons by a definite, though varying, mortality rate. Two per cent to even as high as 30 per cent is reported, the latter where all types of gall-bladder disease are included in the statistics.

The treatment of chronic cholecystitis by medical methods has on the whole been disappointing, though I have seen some cases of undoubted improvement accompany this type of therapy. The indirect treatment of chronic biliary tract infection by removal of chronic infection elsewhere in tonsils, teeth and sinuses should always be practiced, judging from the results obtained. If the chronic cholecystitis is not then improved, I am inclined to believe the surgical treatment of the chronic cholecystitis should be seriously considered.

Dr. Frank Hartman in charge of the Henry Ford Hospital Laboratories reports that in our last 1,000 autopsies, over 10 per cent showed gall stones in the gall bladder or ducts. If only those cases over 40 years of age be considered this percentage jumps to well over 25 per cent. The incidence of chronic cholecystitis without stones is still far more frequent.

We have had 19 cases of primary carcinoma of the gall bladder and these without exception were associated with gall stones. This fact alone is enough to cause the advice of operation to be given whenever the diagnosis of gall stones is made, even though there are no disquieting symptoms.

A paper by Judd and Baumgartner reports that at the Mayo Clinic the relative frequency of malignancy of the gall bladder has diminished from an average of about 5 per cent in earlier years to about .5 per cent in later years. They conclude that the difference in percentage is undoubtedly due to the fact that diseased gall bladders are now removed earlier.

The hazard of the chronic degenerative diseases with their certain high toll of life is another potent argument.

SUMMARY

1. There have been marked advances in the diagnosis of gall tract diseases.
2. The duodenal drainage tube studies offer an even more accurate diagnosis than does cholecystography, if properly conducted.
3. Biliary drainage has been disappointing as a therapeutic measure in the majority of cases, but is of definite value in certain selected cases.
4. Chronic gall tract infection may be a factor in the chronic degenerative diseases.
5. Gall stones are a potential danger, not only because of mechanical dangers of obstruction and ulceration causing a complication of chronic infection, but also on account of being forerunners of gall-bladder cancer.

CONCLUSION

Gall stone operation shoulld be advised whenever diagnosed if there are no definite contra-indications.

Patients with non-calculous cholecystitis should be first treated by clearing up focal infection elsewhere, and by other medical measures, and then, if symptoms persist, by operation.

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DISCUSSION

Dr. C. D. Brooks (Detroit): Mr. Chairman and Members of the Section: I will try not to repeat regarding fundamental reasons for early diagnosis of gall bladder diseases. I think we all recognize them.

Of course, Dr. McClure can not take up all the details regarding the indications in preoperation. I will mention one factor, and that is chronic jaundice. I believe that cases of chronic jaundice which do not respond to fairly early medical treatment within a week of two should not be allowed to go more than a short time after this experiment. Many patients with jaundice, whatever the cause may be, which lasts more than a week or ten days, should have surgical drainage. Cholecystectomy should not be performed in the presence of jaundice.

In many cases, patient when jaundiced accompanied by cirrhosis and cholangitis, may lose his life simply because there has been so prolonged infection, and delayed surgical treatment.

I emphasize again what Dr. McClure said regarding cholecystitis. The diagnosis can usually be made from the clinical history, in about 95 per cent of patients. I believe, with the addition of laboratory methods, especially with cholecystography, even a higher percentage of correct diagnoses should be made. Of course, with acute emergencies, with gangrene, and so forth, those patients should have emergency treatment, and should not be subjected to cholecystography, thereby delaying their operation. Ordinarily patients should not come to operation until they have had cholecystography. In an experience of more than five hundred patients who have had cholecystography, of whom more than two hundred and fifty have been operated upon, laboratory diagnosis confirmed the clinical diagnosis in over 95 per cent. We feel patients should not go on and on with medical treatment, when they have had the clinical diagnosis, confirmed by the valuable cholecystography. At times the Graham test will be negative and show a normal gall bladder, and the gall bladder will not be normal by examination on the operating table, or upon section in the laboratory. The duodenal tube in medical treatment should not be used too long in well established cholecystitis. Surgeons constantly see patients with cholecystitis and secondary complications which might, in part at least, have been avoided by earlier surgical treatment.

I have a few slides to show, regarding one or two points of technic. (These were shown and commented upon by the doctor.)

A surgeon cannot decide ahead of time what he will do in operations for cholecystitis. This shows the method by which we avoid inury in the common duct. We feel it is safer, having seen a number of complications, to open the gall bladder in every case before we remove it. This is the method we use. Instead of using clamps, we use two sutures, and do not get bleeding. Forceps sometimes slip off, and bleeding occurs which causes operative complications and increases mortality. By this method the gall bladder is used as a retractor and a guide.

When we perform an operation for gall bladder

disease on a patient with some serious complications, such as hepatitis, jaundice, pancreatitis, we often perform a choledochostomy, inserting a small tube in the cystic common duct, before the gall bladder is removed. This is important and is oftentimes a life-saving measure. It enables us to remove the gall bladder and yet save the patient with biliary obstruction, and may eliminate a second operation.

At times, in obese elderly patients, with acute empyema or gangrene, we bisect the gall bladder, remove the gall stones, and strip out the mucosa, which is often entirely gangrenous, pack the gall bladder fossa full of gauze and leave in for a week before removing it.

This slide shows many gall stones in a gall bladder, patient seventeen years of age. We want to emphasize especially that many young patients have had gall stones from early childhood. The old adage, fair, fat and forty, no longer holds true in a diagnosis of cholecystitis or its complications.

We have had a few more gangrenous cases than Dr. McClure mentioned in his paper. I think he had thirty-five. We have had seventy-two gangrenous cases, out of eight-hundred and fifty. You will see on another chart a résumé of the cases who have died and practically all cases are of delayed diagnosis with very severe infection. We do not believe in an emergency operation for acute empyema of the gall bladder within the hour or immediately upon being admitted to the hospital if the patient is in fair condition. We believe a few hours, or in some cases days, improve the patient's general condition. Many of these patients are dehydrated and should have saline and glucose with the judicious use of morphine. In jaundiced patients, a small blood transfusion one hour before operation may be life-saving. It is, of course, of the utmost importance that gall-bladder operations should not be performed by inexperienced surgeons. After an experience of more than three years, we believe the use of spinal anesthesia makes the opration much easier and safer for the patient, and for the surgeon, than any other method.

SKIN CANCER AND ITS PROPHYLAXIS*

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Bearing in mind that the family physician through intimate professional and social contact with his patients still is and always will be the main force in the combat with disease, it is upon his observation, advice, and action as applied to the entire individual, or single person, that health can be safeguarded best. No amount of legislation, no number of social workers, no specialists who are interested only in parts, can supplant him in importance in maintaining community health. Where he fails, all fail.

In the war against cancer no part of the human body presents to the physician a richer and broader field of study than the skin. On account of its proximity and accessibility, influences that tend to degeneration can nowhere else be observed so well, and close attention given to abnormal changes in the integument gives opportunity for earlier diagnosis than is practically possible elsewhere in man's structure. Also, the study of conditions inimical to skin health is of prime importance in the work of cancer control.

Altered functions of the skin and its pathological processes depend largely upon insult from within and without: on age, nationality, sex, season, occupation, infection, toxemia, allergic and nutritional states, and on its peculiar weaknesses, congenital or acquired. Cancer or processes tending to cancer may originate in any one of its anatomical constituents; namely, in any one of its various layers, its blood vessels, lymphatics, nerves, and muscles; or in its modifications, the sweat glands, sebaceous glands, hairs, and nails. The systematic study of these various elements proves interesting and useful where prophylaxis and therapeutics of cancer are concerned.

All conservation movements must rest on the vigilance of the physician, on his clinical and pathological studies, and only his intense battle with individual problems can be depended on at the present time to affect the mortality tide in cancer. No broad rules of living can now be laid down to lessen the mortality rate in this disease, except those of living a clean and hygienic life, the avoidance of chronic irritation, acquiring correct habits in eating, observing cleanliness, and receiving from the physician a regular and careful physical examination, including a search into the patient's living conditions.

There is no doubt that the death rate from cancer is on the ascendency. It has doubled since 1890 and trebled since 1870. This situation urgently calls for serious study and continued interest in this disease,

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and, whether the rewards be rich or poor, the future challenges the efforts of every person who is not indifferent to human suffering.

It was only in 1908 that Irving Fisher[1] in his Report on National Vitality estimated that deaths from tuberculosis could be prevented by 75 per cent, thereby adding 2.5 years to human life, but he set the preventability of cancer at zero. In the 22 years that have passed since this report was issued, the anticipated improvement in the death rate from tuberculosis has now been practically attained, at least among the millions insured in the Metropolitan Life Insurance Company and in the general population of the larger and more progressive cities. However, it has been pointed out that the great reduction in general mortality has been realized in saving the young and that this acceleration greatly over-balances the increase in degenerative diseases of middle and old age, including cancer.

Hornell Hart[2] states that instead of showing signs of having used up the major possibilities in preventive medicine, new discoveries bid fair to eclipse even past attainments in the saving of life. Discoveries relating to internal secretions, vitamins, chemistry, and radiology are just at the beginning of their exploitation. The immortality of the individual cell having been practically demonstrated, Dr. Hart assumes no age limit to human life and considers that it could possibly be 200 years in another century. In contrast to this view, however, Dr. L. I. Dublin[3] states that within the last century nothing has happened to encourage the belief that the actual span of life may be lengthened. He thinks that people do not live to more extreme old age than they did in remote antiquity, but that the average is pulled up by the fact that more people live relatively longer. Thus, only the mean length is greater. He has shown that since 1921 the death rates from heart disease, cancer, accidents, and suicide are definitely on the increase, but the notable recent increase in cancer deaths as old age is reached furnishes the greatest objection to Hart's optimism.

Of the great killers, cancer is now third, being outranked only by diseases of the heart and circulation and the respiratory diseases. In 1928 the cancer rate in the U. S. Registration Area reached 96 per 100,000, according to the Bureau of Census. In Massachusetts, where possibly the most determined effort against cancer control is in progress, F. L. Hoffman[4] even shows an increase in cancer deaths in 1929 over 1928.

In its study of cancer mortality, from 1911 to 1922, the Metropolitan Life Insurance Company[5] shows that the statistical study of cancer mortality is no simple matter, and that in respect to color, sex, and age, each group tells its own story, especially in regard to the individual sites of cancer. It is stated that every boy or girl who reaches the age of 10 has a greater chance of dying from cancer than from tuberculosis; of 100 boys 10 years old, over 8 will die of cancer; of the same number of girls, more than 11 will die of cancer, and in both together there is a greater probability of dying from cancer than from tuberculosis and pneumonia combined. There is shown an apparent slight decrease in cancer deaths among females between the ages of thirty-five and fifty-five and a decided increase in each sex beyond the age of fifty-five. The apparent slight fall in women between the ages of thirty-five and fifty-five may possibly be due to the campaigns of education for cancer prevention when persons are considered most amenable to such instruction.

In the period studied, deaths from cancer of the stomach and liver, female genitals, intestines, and rectum together constituted over two-thirds of the cancer mortality. Cancer of the skin was found responsible for 4.1 per cent of all cancers among white males, 2.1 per cent among colored males, 1.8 per cent among white females, and .9 per cent among colored females. Cancer of the buccal cavity was found in 8.9 per cent of all cancers in white males and 6.9 per cent among colorel males; only 1 per cent among females. In this list there are included cancer of the tongue, gum, mouth, jaw, cheek, palate, and tonsil, and the significant death rate begins with the age of thirty-five. It is to be noted that in this study cancer has a much higher death rate among white persons than in the colored, the mortality for white men being three and one-half times that for colored men, and in white women two and one-half times that for colored women. Just why the color difference should be so great is not understood. It has been suggested that the more pronounced secretory activities of the sweat glands and the heavier pigmentation offer greater protection to the negro against malignant growths. It is definitely shown that

fat people and the less prosperous ones are more liable to cancer death. The great menace in cancer, however, lies in the ever increasing probability of dying of this disease.

The conditions surrounding the origin of malignant tumors appear to be made up of a number of etiological factors, but the one essential principle which underlies their inception still exists in theory only. Hence, such various factors as injury, occupation, habits, forms of chronic irritation and inflammation, pre-existing local disease, involutionary processes, isolated embryonal cell groups and tissues, abnormalities of internal secretion—all furnish conditions under which malignant tumors arise. What applies to cancer anywhere applies especially to the skin on account of the common presence of these elements.

The local conditions which tend to the initial proliferation of cancer cells have been divided into two large groups, (1) misplaced embryonal cell groups including structural abnormalities and tissue changes not revealed by obvious microscopical changes, and (2) the "irritation group." Most skin cancers appear in these antecedent lesions that are potentially dangerous, many of them causing little anxiety or fear, and in connection with which an old adage may well be applied; namely, Familiarity breeds contempt. In these conditions a series of changes has been frequently observed, which may be considered to be preparatory to cancer development and to which the invasive character of the cancer cell is finally added to develop the true cancer, the inhibiting or restraining character being suddenly lost. There follows a list of these conditions with discussions.

LOCAL SOURCE OF SKIN AND ORAL CANCER

Senile Warts.—At about the age of forty and over there frequently appear freckle-like pigmentary areas, or small rough and scaly patches, especially on the cheeks, nose, temples, ears, neck, upper trunk, and on the backs of the hands. Their color varies from gray to brown to black. They include the so-called verruca senilis, seborrheic wart or keratosis, or the flat wart, some of which lesions may be nevoid in appearance. The scale may often be removed quite easily by rubbing, but slight bleeding may result. Most of these lesions remain unchanged indefinitely, although the tendency is to increase in size; but sooner or later some give rise to ulceration and present the beginning of a superficial epithelioma, or rodent ulcer, as it is frequently named. At this stage the ulcer may often appear to heal, but a slight crust usually remains, only to present later a larger ulcer when the slight crust may be accidentally removed.

In some instances a distinct warty growth may be found on such a cancerous base, or a horny concretion of variable size may hide the true nature of the lesion for a long time. Such warts or horns are rather frequently seen at the edges of the eyelids among the lashes, on the lips, ears, and on the nose. There is no doubt but that hereditary and constitutional influences, oily skins, and habitual exposure to wind and weather favor such changes, resulting in the so-called "sailor's skin" and "farmer's skin." Common sense should dictate the means of preventing or delaying the appearance of many such lesions; namely, the application of simple ointments or such covering for protection as occasion demands. These lesions are easily removed, as a rule, and the use of carbon dioxid snow is ideal for this purpose. With moderate pressure it is applied from 5 to 20 or 30 seconds or longer, depending on the thickness of the lesion, and the resulting dried vesicle or crust usually drops off in about ten days to leave a healthy appearing skin or a faint scar. With increased experience in careful timing, very fine results are obtained. Warts and horns may first be removed with the curette if necessary.

The treatment should always be adequate, as frequent irritation is to be avoided. Strong salicylic acid plasters, trichloracetic acid washed off when the tissues are whitened, and other chemical caustics have been in use for a long time, but my own experience with them has not been satisfactory. Electrodesiccation is a satisfactory method of treatment, especially in the smaller lesions, the finest spark being used. The lightly screened radium plaque and the X-ray also have their uses in these conditions.

Warts and hyperkeratoses of the mucous membrane of the lips are seen frequently, and, as in the skin, they may exist for a long time before ulceration appears. Leukoplakia frequently co-exists. The treatment here is essentially the same as elsewhere, and my own main dependence is on carbon-dioxid snow and the radium plaque. It is

to be remembered that epithelioma of the mucous membrane is most often of the squamous-cell type with a variable but distinct tendency to rapid growth and metastasis.

Leukoplakia.—Irregularly shaped, white, or milky patches and streaks are frequently seen on the lips, buccal cavity, and on the tongue, and they appear to be very similar in origin, course, and sequelæ to keratoses of the skin. They may develop considerable thickening, warty excrescences, fissures, and cancer.

Although the cause is not clearly established, irritation of long standing is, without doubt, an exciting factor. The use of tobacco, digestive disturbances, mercurialization, highly seasoned foods, alcoholics, dental caries, pyorrhea, infected salivary glands, and syphilis have all been indicted as contributory causes. Whether the opalescent appearance occasionally seen in syphilis of the tongue is identical with true leukoplakia is open to question.

My own experience with these lesions impresses me with the almost constant association of more or less severe mouth infection with chronic discharge of pus as the most fruitful source of leukoplakia. Extensive leukoplakia is occasionally seen on the soft palate of heavy smokers in which the hard palate has been protected by a plate of false teeth. A careful examination of the mouth for rough-edged and decayed teeth, bleeding, and pus discharge from the gums to be elicited by pressure, should always be an important step in the course of every physical survey. Tonsil infection can usually be determined by a gentle expression of the crypt contents from which the odors are suggestive only too often.

Conditions in the mouth which can be mistaken for leukoplakia are especially syphilis, lichen planus, Vincent's angina, and recently it was my experience to find a white discoloration due to a yeast infection of the cheeks, which at first was mistaken for leukoplakia. In this instance, Mrs. W. H., aged 62, had been treated for leukoplakia, but later on culturing the scrapings, it was found that she was infected with the Endomyces vuillemini and was cured in several weeks by the daily painting with 2 per cent solution of gentian violet. The pearly discoloration resembling leukoplakia seen in syphilis does not tend to disappear with the general treatment of the disease. In lichen planus further evidence of the disease is usually found on other portions of the skin. Vincent's angina may be present with or without gum ulceration, but the associated gingivitis and stomatitis are usually uncomfortable or painful in contrast to simple leukoplakia.

Treatment of leukoplakia should first of all be directed toward obtaining health of the mouth, gums, and teeth. Irritation of whatever source should be stopped, and necessary treatment should be rendered to the teeth, gums, tonsils, chronic abscesses, sinuses, fistulas, and erosions, as they may be the offending factors. There is no agreement on the treatment of the lesions themselves; however, the use of the radium plaque and the destruction of the lesions with electrodesiccation are the two most favored means.

Moles.—The common mole of approximately split pea-size, smooth, hairy, or warty, of the color of the normal skin, or brown, with or without hairs, is not particularly dangerous. Nevertheless, frequent and repeated irritation occasionally gives rise to malignant degeneration, or such a change may occur spontaneously. A mole of this type can be readily removed by electrolysis with a current of about 2 to 10 milliamperes, the needle being applied rather deeply in parallel and crossed insertions. It is important that all the tissue be destroyed, especially in depth. The scar is usually smaller than expected, very satisfactory from a cosmetic standpoint, and after many years of treating such lesions in this manner, I have had only very favorable results. They may also be removed by the application of carbon dioxid snow, but usually a number of treatments are required, and the scar is often larger than desirable. Hairs, when present, should first be removed by electrolysis. Epilation by X-ray or radium is unsatisfactory, of some danger, and is not advised.

Although melanoma (melanotic sarcoma, or melanotic carcinoma) may originate in any pigmented spot in the skin, the blue or black pigmented mole is an especially dangerous one, and this danger is increased by a poor choice of treatment, as well as by local irritation from razors, clothing, and friction. Even though the proportion in which melanoma develops is small, the removal of such a lesion should be very carefully considered by both the surgeon and the

patient, and considerable responsibility is accepted by the former by any method of treatment, whatever tendency to spontaneous degeneration may exist in the tumor itself. Meddlesome treatment should be avoided. Since pigmented cells may be found considerably beyond the apparent limits of the tumor, both in the skin and in the subcutaneous tissue, conservative treatment is not indicated in these lesions. Excision by means of the high frequency knife should be insisted on, the tissue destruction being both deep and wide, varying from ½ to 1 inch beyond the nevus in all directions. After the removal, the treated site and the neighboring glands should be well treated with filtered radium. When degeneration occurs it is invariably a melanoma of rapid growth, and metastasis usually follows quickly. The malignant change may be indicated by a slightly fungating surface, or the tumor may become noticeably larger in a short time.

In my records is one unusual case of this kind in which the patient has remained in good health longer than 5 years following treatment of the melanoma with metastasis: Mrs. A. E., aged 40, was first seen in February, 1924, with a bleeding dark-colored, fungating mass on the left lumbar area where the original nevus had been subjected to corset irritation for a long time. The mole had been present since childhood, together with some others in the left groin and on the left thigh. The tumor was found to be a melanotic sarcoma (melanoma) which was transfixed with radium needles. The original lesion healed, but the patient could not be induced to submit to any tissue removal at that time. After 6 months a deep tumor developed in the region of the left inguinal glands, to the removal of which she did give her consent after considerable radium and X-ray treatments. The mass excised by Dr. J. A. MacMillan was egg-sized, contained the tumor, the surrounding tissue, and the moles of long standing. Each of these tissues was diagnosed by Dr. P. F. Morse to be an alveolar melanotic sarcoma with the primary focus in the skin, giving a very unfavorable prognosis. The microscope showed no difference between the tumor and the neighboring moles. Radon implants were used freely at the time of the operation, and, notwithstanding the most discouraging conditions, this patient recovered and is alive and well today. This case is mentioned because of its rarity and because it teaches at least a modest lesson of hope.

Warty and vascular nevi appear to have a very slight tendency to malignant degeneration, and reasonably good results are obtained by treatment with radium, electrolysis, carbon dioxid snow, and electrodesiccation, the choice depending upon the condition found and on the experience of the operator. Surgical removal is often found unsatisfactory, as recurrences may follow. The thicker angiomata respond best to radium. The simple superficial and rapidly growing angiomata of infants are usually treated best with carbon dioxid snow.

Kraurosis Vulvæ.—This disease of many names is marked by patches of leukoplakia about the mucous membrane of the vulva and is associated with variable itching, dryness, inflammatory areas, and exfoliation. In a recent study of the disease, Grave and Smith[6] conclude that kraurosis and leukoplakia are phases of identical processes and point out its intimate relationship to cancer. Most of these patients seek relief only when the itching has become intolerable. The disease is of slow advance, and the conditions which have inaugurated the process may have long ceased to act; namely, local infections, discharges due to old lacerations or other causes, and altered urine. Each case should be carefully considered and handled on its own merits. In the treatment, surgical removal or electrodesiccation hold first place. X-ray and radium tend to cause further atrophy.

Syphilis.—In the treatment of syphilis one must not lose sight of the fact that cancer may co-exist, the disease having developed on a syphilitic base or independently. Belote[7] found co-existing cancer of the tongue and syphilis in 30 per cent of 92 cases, strongly suggesting cause and effect and that the carcinomatous tendency was distinctly hastened by syphilis. The malignant tumor may develop at the site of an old gumma, in an old glossitis, in a patch of leukoplakia, or in a scar. As an instance of the latter, the following case may be of interest: J. H., aged 52, was first seen in February, 1917, with great infiltration of the entire penis, a large ulcerated area extending from the foreskin to the base, with the history that the ulcer had first appeared some months before at the site of a chancre of the prepuce, which he had acquired ten

years before. Biopsy showed squamous-cell carcinoma, and the blood Wassermann test was XXXX. He died of carcinoma of the perineum and groins after nine months.

Arsenical Keratosis.—It is usually from the long-drawn internal use of arsenic that cancer may result. Many such cases have been reported following arsenical pigmentation, especially about the shoulders, neck, and after thickening of the horny parts of the skin, more frequently on the palms, soles, and the dorsum of the hands and fingers. Both physicians and patients are often disposed to continue the use of this drug far beyond the point of safety, and the frequent and permanent arsenical keratoses which are still seen prove how safety in treatment is often sacrificed for more brilliant but temporary results. The horny and dangerous lesions should be destroyed when possible. Cancers arising in this manner are usually of slow growth.

The Common Wart and Papilloma of the Tongue and Mouth.—Although the common wart appears to be infectious, both it and papilloma of the mucous membrane appear very frequently as the response to an irritant, and there is, no doubt, some malignant tendency. When cancer occurs it is of the squamous-cell and more rapidly growing kind. Fulguration, excision, and freezing with carbon-dioxid snow give the best results before malignancy appears.

Scars.—Old scars from various diseases, as lupus vulgaris, lupus erythematosus, syphilis, and burns, are likely to give rise to cancer. Each should be treated on its own merits.

Lupus Vulgaris.—The lesions of this disease not infrequently develop cancer of the prickle-cell type, and this tendency appears to have increased by the over-use of X-ray and radium.

Bowen's Disease and Paget's Disease.—Both these conditions are now regarded as cancerous from the beginning. In the former the epithelial degeneration remains indefinitely within the confines of the epidermis, or it may invade the adjacent tissues. The true Paget's disease of the breast probably does not exist without carcinoma of the milk ducts, sweat glands, sebaceous glands, or adjacent tissues. These lesions are destroyed best by desiccation, cautery, or radium, and Eller and Anderson[8] now advise complete removal of the breast.

Adenoma Sebaceum.—This is probably a functional overgrowth, but there may be extensive hyperplasia of gland cells, and the lesions may resemble epithelioma. These lesions are doubtless the source of some skin cancers.

Occupational Affections.—R. Prosser White[9] lists many occupations as tending more or less to malignant disease. Those who work in coal gas tar, especially when heated, in pitch, lignite, gas works tar, producer gas tar, and coke oven tar are found to be more than usually subject to epithelioma. Even innocuous petroleum heated to 880 degrees C. becomes carcinogenic, the dangerous factor apparently being released by heat. Workers in such fumes appear to be especially liable to cancer which may come a number of years after exposure. Tar workers include those employed in the making of flashlight batteries, tile makers, tar road makers, makers of roofing paper, stokers in gas works, and those who labor in tar distilleries. The skin alteration as the result of exposure to coal tar is very similar to the stimulation caused by X-ray. Workers in pitch are liable to epithelioma. They develop pitch comedones and warts, sores follow, and later develop rodent ulcer. Workers in soot have been notoriously subject to scrotal cancer in England, even children having succumbed to this disease. The development of epithelioma has been directly connected with work in creosote, lamp black, aniline dye, and irritating chemicals used in gardening.

Further, cancer has been reported in smelters of tin, nickel, copper, iron, silver, and other ores, in farmers using arsenical sprays, and in others who are subjected to arsenic dust. Workers in mineral oil and shale, the mule spinners in the cotton industry, railroad stokers, those handling hot pokers, and cobblers holding tacks in the mouth have furnished cases to be included in cancer deaths due to occupation.

Prevention consists of frequent washing and protection by proper clothing, application of bland oil to fill the pores of the skin before going to work, frequent medical examinations, and change of working habits when found to be dangerous.

X-ray and Radium.—The deleterious effects of the roentgen-ray and radium are now well known. Large doses or repeated small doses may produce pigmentation, telangiectasia, keratosis, atrophy, permanent epilation, ulceration, and occasionally

cancer. The effect may not be known for a number of years. Workers in radiology have been sufficiently warned by past experiences and generally employ ample protection at present. However, the dangerous effects of X-ray on the gullible public especially are well known to every dermatologist, and in recent times more and more cases of X-ray "burns" of this kind are being seen in consequence of the use of this agent for the removal of the hairs by quacks and the so-called beauty specialists. Such unfortunate results are frequently seen on the face, arms, and legs. They are permanently disfiguring, and the appearance of many unfortunate young women has been ruined by this means forever and beyond hope of improvement.

Miscellanous Causes.—Chronic ulcers, sebaceous cysts, lupus erythematosus, xeroderma pigmentosum, blastomycosis, psoriasis, eczema, lichen planus, syringoma, endothelioma, benign cystic epithelioma, paraffinoma, rhinophyma (Novy),[10] and such bizarre causes as the wearing of a wedding ring, prolonged exposure, and the wearing of orthopedic apparatus have been found to cause cancer. Twice in the past year (patients D. O'D. and C. K.) and a number of other times, I have seen epitheliomas at a point of pressure of pince-nez. In connection with chronic ulcers, it is inadvisable to use caustic and irritating applications which are only too commonly employed. Relief of edema and inflammation associated with ulcers is usually obtained best by rest and elevation together with constant wet dressings of the mildest antiseptic applications. The ulcers are permitted to heal, rather than "cured."

Other Skin Tumors.—Other types of tumors found in or under the skin are the less common angio-endothelioma, having been found in the foot, finger, and face; endothelioma found in the scalp and penis; lymphoma and lymphosarcoma originating in the lymph glands; dermatomyoma; various neuromata; rarely osteoma; and that of greater importance, the spindle-cell sarcoma. The small and large spindle-cell sarcomata are found in nearly all connective tissue. Various kinds of sarcoma originate spontaneously in the skin. They include the sarcoids which often disappear and do not produce metastases. The multiple hemorrhagic sarcoma of Kaposi is rather rare and is marked by cyanosis, edema, soft bluish nodules and ulcerations. The giant-cell sarcoma is occasionally found as a mass under the skin, is readily shelled out, and never yields metastases.

GENERAL COMMENTS

The suspicion or appearance of epithelioma demands the radical destruction of the lesion, and a number of methods are at the disposal of the physician. Metastases are but rarely seen in basal-cell epithelioma of the rodent ulcer type, and the superficial lesions can be removed frequently by excision alone if sufficient depth and width are taken, a very important requirement. Surgical diathermy, X-ray and radium, especially the latter, singly or combined, depending upon the operator's judgment, give excellent results, but recurrences may follow any method of treatment. Wherever possible, further wide resection of the area involved is advised. Such treatment may be employed when the lesion is on the patient's trunk or neck, but not so satisfactorily when larger and disfiguring scars may result about the face, and patients often prefer to accept the chance of getting well without mutilation rather than to increase their chances of recovery by permanent disfigurement. The age of the patient, location of the disease, and the probability of recurrence should all be carefully weighed before determining upon any method of treatment. Generally speaking, about 75 to 90 per cent of rodent ulcers of small to moderate size and amenable to treatment are clinically cured by radium alone. Small epitheliomata may be removed perfectly by excision. Once, many years ago, I followed this procedure with success in the case of an epithelioma of the mucous membrane of the floor of the mouth. This patient was under observation for more than twelve years thereafter, during all of which time he was an object of much interest to me. In view of present day knowledge, however, I should not be satisfied with only this treatment, and it is certainly not to be recommended today. The same may be said for the destruction of small epitheliomata by the application of carbon dioxid snow.

The superficial cancerous ulcerations on the cutaneous or mucous surfaces do not show much tendency to extension into the lymph glands, if they are of the rodent ulcer type. The adenoid epitheliomata show a tendency to reproduce the glands, and in

these structures there appear finger-like projections from the basal epithelioma, or from the gland ducts, with hornification of the squamous cells. In these the lymph nodes may be affected early, metastasis being favored by atypical structure, deep origin, deep ulceration, long duration, and inflammation.

Intra-oral cancers are preventable, accessible, and curable, but the treatment must always be early and adequate. Early skin cancer of the basal-cell type may be safely treated with sufficient radiation. Early squamous-cell epithelioma always requires a maximum of radiation, from two and one-half to ten times the erythema dose, but when possible, wide excision with removal of the regional lymph nodes is preferred.

CONCLUSION

There being no absolute criteria for the diagnosis of early cancer, there are, nevertheless, a number of features in the clinical progress of this dreaded malady which can be interpreted as cancer beginnings and which occur with monotonous regularity. These mild symptoms too often cause but little concern and excite an apprehension only when discomfort, pain, sudden growth, or bleeding are added. The spread of cancer depending, as it does, on peripheral extension and metastasis through the vessels by either cell-growth in chain-like extension or by cell emboli, who shall say when, how, or how far such extension takes place?

That cancer and, rarely, the metastases are curable is undeniable; that an underlying constitutional cancer tendency will remain must also be granted. How, then, can we expect to attack the cancer problem with the greatest hope of success if not by prophylactic treatment? As the power of one of mankind's great enemies is being more fully appraised, we should stand ready with a campaign of prevention to meet it with increasing hope and confidence, believing that the rising tide can be turned.

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THE TREATMENT OF POLLEN ASTHMA, HAY FEVER AND POLLEN DERMATITIS BASED ON A POLLEN SURVEY OF DETROIT*

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It is not generally appreciated that approximately 30 to 40 per cent of all asthmatics are of the seasonal type, having attacks only during certain months of the year. This type of asthma is principally caused by pollen and can be entirely prevented by proper treatment with pollen extracts. Among patients suffering from the perennial type of asthma due to foods, animal emanations, etc., in 90 per cent, pollen is a highly aggravating factor. In these patients, as well, great improvement can be accomplished by injections with pollen extracts. For seasonal hay fever, pollen treatment is at present considered the method of choice.

In determining what pollen extract we should use in the treatment, it is essential to be thoroughly familiar with the local hay fever flora. The data which are at present available for Michigan are very incomplete. The nearest cities in which thorough pollen surveys have been conducted are Chicago, Indianapolis and Memphis. Treatment suggested for Detroit and Michigan is largely based on the results of this work.

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†For personal notes see August, 1930, number of this Journal.

In selecting the pollen for our treatment we are accustomed to be guided by skin tests. It is generally agreed today that sensitization tests are not reliable. We frequently see negative skin tests in definitely ragweed-sensitive patients. On the other hand, positive skin tests are obtained with pollen which are certainly not present in the environment of the patient at the time of his hay fever.

To secure more accurate data about Detroit's hay fever flora, and thus to obtain a means by which to make a more correct pollen diagnosis, was the purpose of this paper.

Two methods are available for such a study, namely, to investigate the plants in the fields and to observe the pollen in the air. Either method alone is limited in its value. For a thorough field study extending over an area sufficiently large to be of value, would be impossible because some pollen is carried by the wind more than one hundred to two hundred miles. On the other hand, on examining the pollen in the air by means of exposing vaseline coated slides, the correct identification of the pollen grains on these slides is extremely difficult, if not impossible. During our investigation, therefore, both methods were employed, one serving as a check on the other. In addition, a clinical survey has been conducted on a large number of patients, which, however, will require several seasons for completion.

The following problems presented themselves during this study:

1. What plants constitute the hay fever flora of Detroit?
2. Which pollens are present in the air of Detroit?
3. On what dates do the prevailing plants first appear, and when do they produce the largest amounts of pollens?
4. Are there pollens or other substances in the air that have not as yet been recognized as hay fever producing agents?

For the field study some thirty-two fields in the vicinity of Detroit were surveyed botanically at least twice during the interval between May and October 1, 1929, by one of us (W. C. S.), the relative number of species in each area being recorded.

The plants present in greatest abundance were graded number 5, the most sparsely distributed ones, number 1, while the numbers between 1 and 5 were used to denote the intermediate degrees of frequency. A summary of the thirty-two records yielded column 1 of Table I, which thus presents the numerical distribution of the common plants.

Table I

FREQUENCY OF OCCURRENCE OF HAY FEVER PLANTS IN DETROIT

PLANT	Sum of Numbers on Survey Sheets	Relative Ability to Produce Wind-Borne Pollen (On scale of 100)
June grass (Poa pratensis)	115	60
Short ragweed (Ambrosia elatior)	106	95
Goldenrod (Solidago species)	95	5
Sweet clover (Melilotus alba)	90	1
Quack Grass (Agropyron repens)	56	15
Orchard grass (Dactylis glonerita)	55	90
Timothy (Phleum pratense)	47	80
Common plantain (Plantago major)	42	10
Giant ragweed (Ambrosia trifida)	34	100
Wild carrot (Daucus carota)	32	0
Canada thistle (Circium lanceolatum)	32	0
Cocklebur (Xanthium pennsylvanicum)	28	20
Wild lettuce (Lactuca species)	27	0
English plantain (Plantago lanceolata)	25	60
Pigweed (Amaranthus retroflexus)	19	20
Crisp dock (Rumex crispa)	16	18
Knotweed (Polygonum species)	15	5
Fox tail grass (Chaetochloa glauca)	15	15
Marigold (Bidens species)	14	5
Wild barley (Hordeum jubatum)	10	10
Lamb's quarter (Chenopodium album)	10	30
Barnyard grass (Echinochloa crus galli)	10	35
Cat tail (Typha latifolia)	7	15
Orache (Atriplex hastata)	3	20
Sunflower (Helianthus annuus)	3	3
Sheep sorrel (Rumex acetosella)	1	15
Wire grass (Poa compressa)	1	50

After having obtained this information about the most abundantly occurring plants, it was then necessary first to observe the behavior of each plant during the season and second to study each individual pollen. Aside from the prevalence of a plant, its hay fever causing quality depends also on the ability to produce pollen in large quantities and furthermore on the question of whether or not the pollen grain is wind borne. Tree pollen, for instance, is larger and therefore heavier than ragweed and can thus be carried only about 10 to 15 miles by the wind. The relative roughness of the pollen grain is also to be considered. Ragweed and cocklebur, for instance, with their spiculated surface, are carried far more easily by the wind than the grass pollens, the surface of which is smooth. The pollen of other plants such as goldenrod, although relatively small in size, is surrounded by a resinous material which makes it sticky and adhere to the plant by which it is produced. Moist pollens

as those of most flowering plants such as roses are too heavy to be wind borne. All such plants, therefore, can be eliminated from consideration as cause of pollen disease.

An evalution of the ability of the plants encountered, to produce wind-borne pollens is given in column 2 of Table I. In this table the ability to produce wind-borne pollens for giant ragweed, which is the most profusely pollinating one, is taken as a standard of 100 per cent. The other figures give a comparison of the other plants on this basis. They were estimated from observing these plants and from studying the behavior of their pollen. From this chart it is evident that orchard grass, timothy and English plantain follow the ragweeds closely in their hay fever producing qualities.

FIELD SURVEY

The field survey showed a remarkable uniformity in the growth of weeds in various parts of the city, June grass, short ragweed, goldenrod, sweet clover, quack grass and giant ragweed being the ones most frequently encountered.

In the downtown district of Detroit there was as much pollen present as in the outlying areas, which can be explained by the presence of many vacant fields across the Detroit river. In some places we found certain plants such as cocklebur and pigweed in abundance and plates exposed in such areas showed a marked prevalence of their pollen. This predilection of weeds for certain areas of the city is very important as an etiological factor in unexplained cases and emphasizes the need for pollen studies in the patient's home surroundings.

Some plants, such as dandelion, milkweed and thistle, which do not produce wind-borne pollens are included in this study because at the time when their seeds are carried by wings through the air, a large number of microscopic fragments resembling parts of these plants were discovered which may possibly have some bearing on the cause of asthma.

AIR STUDY

For the air study, vaseline coated microscopic slides were exposed daily in Ann Arbor and Detroit and the collected pollens counted and identified. Figure 3 gives dates and calculated number of granules of pollens per cubic yard of air calculated by counting an area of 1.8 sq. cm. of slide surface. The factors on which the pollen content of the air depends are mainly direction and velocity of wind, rainfall and barometric pressure. Wind causes greater pollen counts on the slides. It has been demonstrated that in closed rooms pollen counts are very small. About 3,000 feet above the surface, there are as many pollens as in an altitude of 200 feet. Rain frees the air of pollen, but subsequent sunshine makes pollination more abundant than before. Low barometric pressure, however, saturates the areas close to the surface with pollen. In accord with this observation, patients suffer before a rain, but improve during and immediately after rain. They are at their worst when sunshine or wind follows the rain. In the early morning hours there are more pollens in the air than at other times.

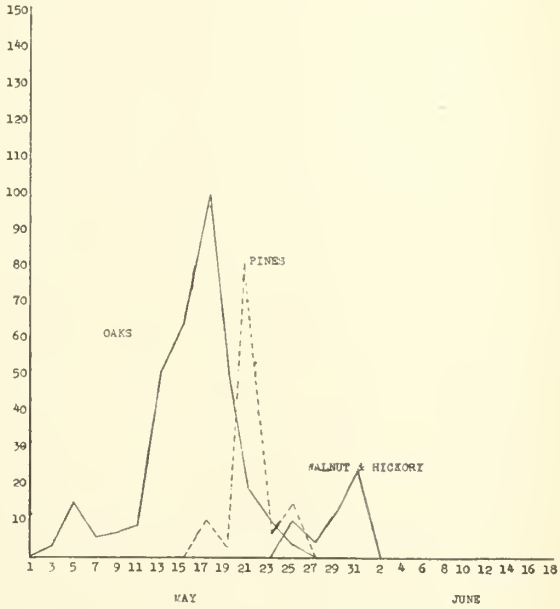

Fig. 1. Tree season starts already in April when elm, box elder and maple pollinate. Not many patients require treatment because tree pollen is heavy and not carried very far and because season is short.

The graphs themselves are self-explanatory and demonstrate the time of the three pollen seasons, namely the tree season in early spring (Fig. 1), grass season in June and July (Fig. 2) and weed season in August and September (Fig. 3). The curves of the ragweed season for Detroit and Ann Arbor show great resemblance, with the difference, however, that the counts in Detroit were about twice as high as those of Ann Arbor. This is probably due to the

fact that the Detroit slides were exposed in an open field.

During the course of this study the slides were frequently found to contain various types of fungus spores (Fig. 4), especially after the close of the pollen season, at the time when untreated cases of hay fever suffer their worst. The commonest and most noticeable of these spores are the multicellular spores produced by various septate molds, as Alternaria and Macrosporon. Found in smaller numbers, but more generally throughout the season, are the very small unicellular, transparent or colored spores of such molds as Aspergillus and Penicillium. Fungi, as cause of asthma and hay fever, have lately come into their own. Judging from the literature available, there is no doubt that they play a much larger role than heretofore supposed.

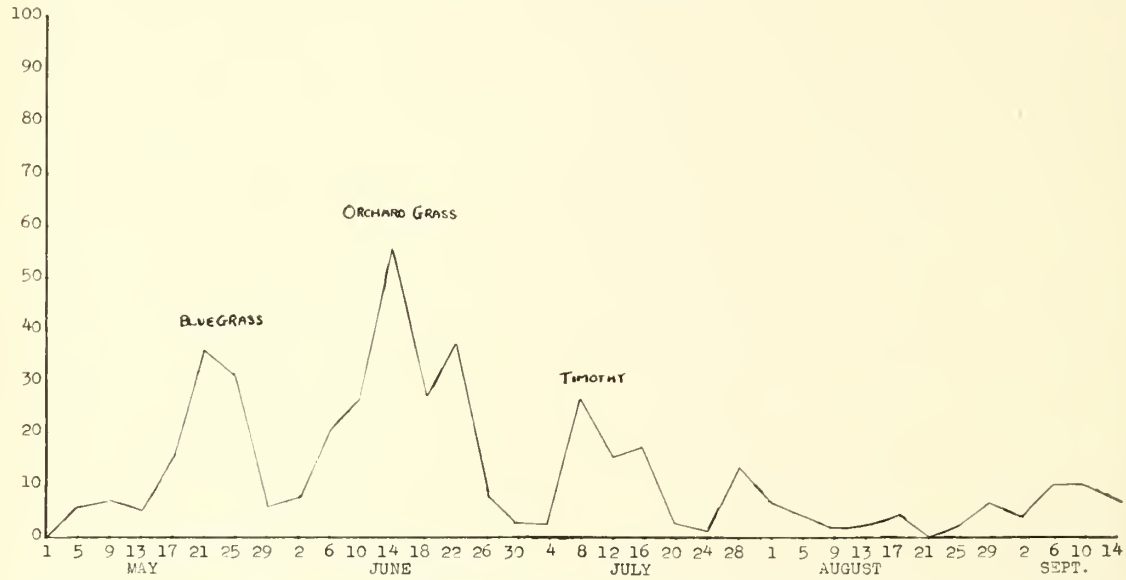

Fig. 2. Grass season ("Rose fever"). Very little red top was observed. Docks and plantains pollinate from June 1 to August 5, chenopods and amaranths from July 20 to September 12. Cat tails about June 20.

HAY FEVER

In applying the data obtained to the treatment of pollen disease the following should be emphasized. In the Detroit area the tree season in March and April is elicited mainly by maple, oak and elm. While there is a relatively small percentage of patients suffering from this type of hay fever and while the season is usually of a short duration, there is a need of desensitizing some of these cases, because the nasal changes produced by the tree pollen may contribute toward predisposing to hay fever and asthma of the other seasons.

The so-called rose fever in June and July is due to June grass if it starts during the last week of May, to timothy and orchard grass in June and July. About 10 per cent of all hay fever patients suffer from this type. For cases who are troubled throughout the end of July and the beginning of August, lambs quarter, yellow dock, English plantain and pigweed should be considered in addition in the Detroit area.

The fall season, which is inaugurated by giant ragweed on August 15 and by short ragweed about August 23 is nearly exclusively brought on by these two weeds. In the few cases who are not fully responsive to ragweed treatment, consideration should be given to cocklebur about September1, and marsh elder during the latter part of September.

ASTHMA

The treatment of asthma has been greatly improved, since we have learned to use larger doses of pollen extract. The need for desensitization with pollen is well demonstrated by the fact that these patients develop worse attacks on days of the pollen peaks, whereas during the time when little pollen is in the air their asthma is relieved. During the winter the part played in the fall by air-borne pollen seems to be taken over

by the action of molds, especially on moist days and at the time when the leaves start to rot. Spores of molds are equally irritant to the mucous membranes of the nose and sinuses as pollen. The frequent association

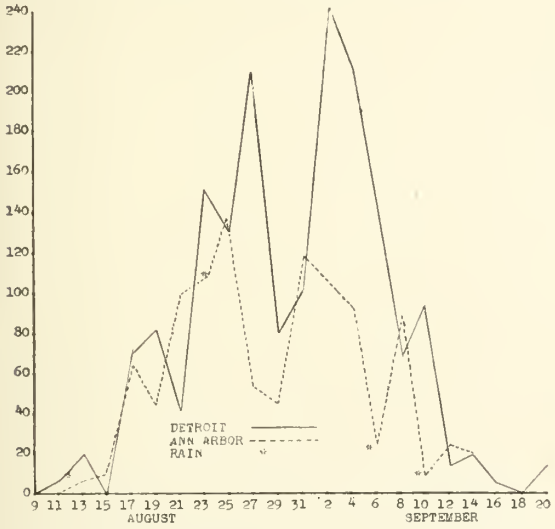

Fig. 3. Fall (Ragweed) season. Note the similarity between both curves. The Detroit curve shows higher counts because the slides were exposed in an open field.

of nasal catarrh and sinus infection with asthma at that time, points to the above conception.

In treating the purely seasonal asthmatics, one has to consider the fact that these patients are usually much more sensitive to pollen than hay fever cases. Therefore their immunity against the offending pollen has to be built up to a much higher level than in uncomplicated hay fever cases. To attain this result the course of treatment is planned so that the maximum final dosage reached during the injections averages at least 30,000 to 40,000 units. The treatment is strictly preseasonal, since severe asthmatic attacks have been encountered in those patients who have not reached their final dosis before the season started. If the pollen treatment is carried out throughout the whole year with the maximum dosis attained before the onset, these patients may improve to such an extent that even the causative factors other than pollen may be entirely controlled.

POLLEN DERMATITIS

Pollen dermatitis is a condition which has been until recently largely neglected, although it is not infrequently encountered among allergic cases and very difficult to improve by measures other than pollen extracts. It is characterized by its seasonal

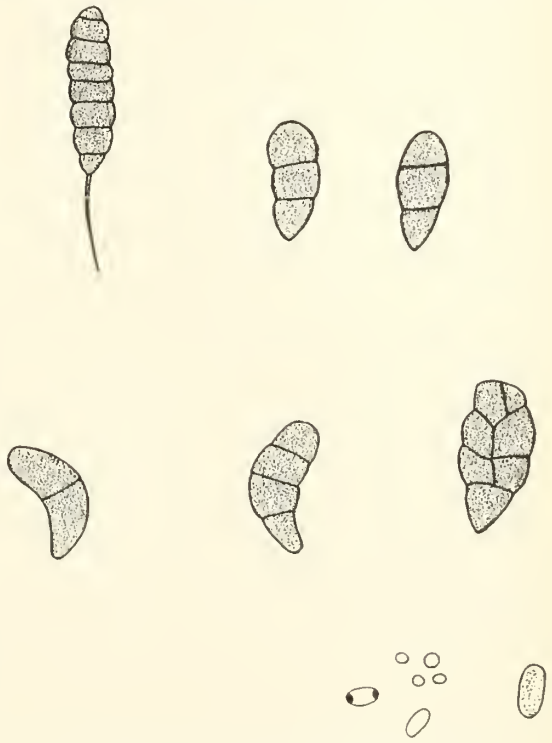

Fig. 4. Spores of molds encountered on our pollen slides. They may contribute to the causation of asthma.

occurrence and by the appearance of small papules, which may develop into blisters and crusts itching severely. Where there has been a previous abrasion of the skin, they may develop into small ulcers. In order to demonstrate their etiology, the so-called patch test is a reliable method, which consists in applying dry pollen to the skin, fastened by adhesive tape for several hours. Treatment with pollen extract is very efficient if given before the onset. Coseasonal treatment has caused temporary flare-ups in some of my cases.

In conclusion, I wish to emphasize that in all cases of possible pollen etiology the dates of symptoms should be thoroughly checked with the available pollen charts in order to secure the best therapeutic results.

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REPORT OF CASE OF TUBERCULOMA OF CEREBELLUM

FAITH F. HARDY, A.B., M.D.†
GRAND RAPIDS, MICHIGAN

Tuberculomas of central nervous system have come to be rather uncommon conditions. Dr. Wagener in 1927 reports that only fourteen cases of tuberculomas of central nervous system had occurred in 1,000 cases of authenticated brain tumors at the Peter Bent Brigham Hospital. This included patients of all ages. Forty years ago the situation was quite different. In 1890, Starr, writing in Keating's "Cyclopedia" reported that 50.8 per cent of all brain tumors in patients under 19 were tuberculomas and that 13.6 per cent of brain tumors found above that age were tuberculomas. In the 1,000 cases reported by Dr. Wagener he found that 3.5 per cent of the brain tumors found under 19 years were tuberculomas, while only 1 per cent of the tumors above that age were tuberculomas. That would indicate that they are still four times as common in young patients as they are in adults, but still rare.

Their rarity is also shown by the fact that Dr. Wagener saw only two cases during a service of 2.5 years, in a clinic in which neurologic surgery played an important part.

They may occur at any age. The youngest that I have found reported in the literature was in an infant 23 days old. Another case reported was in one 5 months old, and another at 18 months. They may occur then from young infancy up through adult life.

But since they are relatively rare at present day in this country it is worth while to report any cases of tuberculomas seen.

There are several considerations that are very interesting.

First is the location. Almost all writers have laid stress on the fact that tuberculomas of childhood show a marked predilection for the cerebellum and brain stem. However, Anderson reporting a series of cases from the Philadelphia General Hospital found only 29 per cent of the cases located in cerebellum. But, on the other hand, the cases he reported were in an older age group. Gowers reports that one-third of all the tumors are located in the cerebellum. Ferris reports that eight cases were found at autopsy and in seven of the eight cases he found the cerebrum to be involved.

Second is the frequency of terminal meningitis in these cases. There are probably very few cases found in which a terminal meningitis is not the final outcome. There are some writers who believe a tuberculoma may become healed, but a healed tuberculoma is an exceedingly rare finding at necropsy.

A third interesting point is the frequency that trauma seems to be a factor in localizing the tubercle bacilli. This point is stressed by several writers.

A fourth point is the impossibility of doing much in a curative way for these cases. In only a comparatively few cases has an extirpation of the tuberculoma been attempted. Permanent recoveries have been exceedingly few, and these have been after removal of cerebral lesions in adults. Operations have been chiefly valuable as palliative procedure, but in a few weeks or months the patients have succumbed to a terminal meningitis.

The fifth point is the method of growth. The tumors vary greatly in size, and may grow to be as large as an orange. It grows by the coalescence of spreading tubercles at the periphery. On section these tumors often present a cheesy appearance in the center, while the periphery is grayish in color or translucent and the surrounding brain tissue is softened. The comparative absence of blood vessels accounts for frequency with which degeneration and softening occur.

It may be that multiple involvement of the brain is more common than is thought. In the eight cases which Ferris reported, and which came to autopsy, multiple involvement was found in seven. Ferris feels that sections must be made through the brain at close intervals to rule out multiple lesions.

CASE OF TUBERCULOMA

The case that I wish to report is of a colored girl, 9 years old, who was admitted to Butterworth Hospital, April 9, 1928. Her family history and

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past history were entirely negative. The present illness started one and one-half years ago, following a fall with injury to her head. Following that injury she developed an internal strabismus of the left eye and loss of weight with increasing weakness. Five months before admission she had severe headaches, chiefly located in the back of her head and neck and associated with vomiting. At present she has no headache and no vomiting but complains of stiffness in the back of her neck. She has had no fever. No ataxia has been noted at any time. The child was brought in because of the progressive weakness and loss of weight. She had been attending school until time of admission.

The examination was negative except for the neuromuscular examination, which showed bilateral hyperactive knee jerks, positive Gordon and Oppenheim and a bilateral Kernig. There was some rigidity of the neck muscles. The blood count showed a mild anemia only. Urine was negative. Her spinal fluid was under some increased pressure, was clear, with no pellicle. Globulin was 3 or 4 plus. There were 136 cells present. No tubercle bacilli were found, and culture was sterile. Kahn on fluid was negative. Colloidal gold was not typical of any condition. Von Pirquet test was negative. Chest X-ray was negative.

Dr. G. J. Stuart, neurologist, was called in consultation. His report was as follows: Deep reflexes are present and active, more active on left side. Sensation is negative. Neuromuscular negative. No Babinski. No clonus. Kernig is positively bilaterally. There is some suggestion of retraction and stiffness of neck, but not marked. Eyes react sluggishly to light and accommodation. Eye grounds show considerable clouding of discs on both sides. Left sided strabismus. Mentally well oriented. Some retardation in mental reactions. There is a strong suggestion of chronic meningitis of tuberculous type regardless of absence of tubercle bacilli in spinal fluid.

The spinal puncture was repeated with essentially the same findings.

For one week her condition remained the same. Then she began to have occasional attacks of severe pain in her head lasting from two minutes to one-half hour. These did not occur oftener than once in 24 hours. During these attacks she would assume position of opisthotonos and would moan and sway from side to side. Between these attacks she was bright and as well as usual. Her temperature, pulse and respiration remained normal. On the 14th day she died suddenly in the midst of one of these attacks of pain in her head. An autopsy was performed by Dr. Margaret Miller, pathologist of Butterworth Hospital, who found the surface of the brain to appear normal. Incision into the lateral ventricles was followed by the escape of a large amount of slightly cloudy fluid which was not measured. The ventricles appeared to be 3 or 4 times their natural size. Third ventricle greatly dilated, fourth ventricle about normal size. There was no evidence of tubercles on the surface of the brain or ventricles. The outer surface of the cerebellum had translucent areas. There was an increased consistency and opacity of the right half of the cerebellum and right cerebellar peduncle.

Gross examination of chest and abdomen was negative.

Sections from the right half of the cerebellum showed a mass of tubercles, some fresh and some caseous. Tubercles were avascular for the most part and contained typical tubercular giant cells. Sections of the remainder of the cerebellum and cortex were normal except for a slight round cell infiltration of the meninges. The round cell infiltration was over the surface and did not extend into the sulci. Sections of the cerebrum showed no round cell infiltration. Sections of the pons and the choroid plexus showed round cell infiltration and some diffuse round cell infiltration, but no tubercles. Sections of the peritoneum of appendix showed some round cell infiltration. The pathologist's diagnosis was tuberculoma of the cerebellum with internal hydrocephalus, a very early serous meningitis and early peritonitis, probably tubercular.

Spinal fluid was injected into a guinea pig. In two months the pig was killed and there was no evidence of tuberculous lesions and no tubercle bacilli were found.

The history in this case started with an injury to the head, as so many do. The lack of ataxia was interesting and the fact that no tuberculous lesions could be found elsewhere in the body, either during life or post-mortem.

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INTRADURAL CAUDAL ANESTHESIA IN UROLOGY

George H. Ewell, Madison, Wis. (*Journal A. M. A.*, Jan. 10, 1931), urges that it should be the aim of urologists to make cystoscopic examinations and all operative procedures through the cystoscope as painless as possible; better coöperation is obtained from both the patient and the general physician. Caudal anesthesia produces sufficient relaxation of the bladder for complete cystoscopic examination and treatment in all types of cases, the operative procedures are painless, and the work of the operator is greatly facilitated. It also provides a safe and reliable anesthesia for perineal surgery and operations on the external genitals in men, rectal surgery, and perineal plastic operations in women. The method of intradural caudal anesthesia is recommended because of its simplicity and reliability; by a single intradural injection complete sacral block anesthesia can be produced, whereas by the extradural technic the introduction of a needle and anesthetic solution into the sacral canal and into several or all of the eight sacral foramina would be necessary.

FAMOUS MEN IN MEDICAL HISTORY

JOHN MORGAN*

BURTON F. BARNEY, M.D.

"The historian who shall hereafter relate the progress of medical science in America will be deficient in candor and justice if he does not connect the name of Dr. Morgan with that auspicious era in which medicine was first taught and studied as a science in this country."

Benjamin Rush.

In the year 1736, in the thriving city of Philadelphia was born a child who was to revolutionize the then current precepts and practice of medicine. The father, Evan Morgan, a successful merchant of the town, was destined to become quite eminent in public affairs. It is recorded that he became a member of the board of managers of the Pennsylvania Hospital and held this position for two successive terms, a warden of Christ Church of Philadelphia and a personal friend of the world-famous Benjamin Franklin. The mother, formerly Joanna Biles, came from a socially prominent Quaker family, and of a quiet home life. With this ancestral background, it can be readily seen why John Morgan became the man he was. The child grew up in a congenial atmosphere of culture and intellect, doing the things that the normal boy of the times did, but early there was noted a strong propensity for learning and an uncommon application to books.

His early education was begun at Nottingham Academy in Maryland, where, under Dr. Finley, he acquired the rudiments of learning. Even at this early date in his career, his special attributes were recognized for he was reputed to have been one of Dr. Finley's best students. He finished his studies under the Reverend Doctor Allison, at the College of Philadelphia in 1757, from which school, in the first class graduated, he received the degree of Bachelor of Arts. He acquired during his student years the esteem and affection of his teachers by his unusual diligence and proficiency in all the divisions of the Arts.

During his last years of attendance in the college he began the study of medicine as an apprentice to Dr. John Redman of Philadelphia, thirteen months of which time were spent as apothecary at the Pennsylvania Hospital, where he acquired a knowledge of the various drugs unusual for the times. while acting in this capacity he compounded many prescriptions for the foremost men of the times and became intimately acquainted with them. In this station his conduct gained the confidence of his master and the affection and the gratitude of his patients.

After the expiration of his apprenticeship with Dr. Redman he entered the Provincial Army in the Pennsylvania Troops in the war between the French and the English, in the capacity of surgeon. Here he carried out his work with his usual diligence and intelligence and was warmly recommended by Dr. Benjamin Rush. His experience stood him in good stead for the position that he was to hold in the army of the Colonies in their war for freedom from the British Empire. Dr. Rush said he had heard of him, "if it were possible for any man to merit heaven by his good work, Dr. Morgan would deserve it for his faithful attendance upon his patients." He spent four long tedious years in the army—a vigorous training for any man.

In 1760 Morgan sailed for Europe to spend five years of study. In England he attended the lectures and dissections of the celebrated Dr. Hunter, where he attained a first hand knowledge of anatomy from one of the most brilliant men of the times. From here he went to Edinburgh, where he attended the lectures of Professors Monroe, Cullen, Rutherford, Whyatt, and Hope, the foremost men of medicine in their country at that time. He spent two years of study there at the University of Edinburgh in the pursuit of medicine, and at the end of that time wrote his famous thesis on the basis of which he was granted the degree of Doctor of Medicine. In this thesis, "De Puopoiesis" —on the formation of pus—he postulated,

*Read before the Victor C. Vaughan Society, University of Michigan, Medical School, November, 1930.

and adequately sustained his arguments, that pus was a secretion formed in the blood-vessels during inflammation; thereby anticipating Hunter's theory of its origin from the blood by several years. The thesis itself is said to be a masterpiece of Latin composition.

From Edinburgh, Morgan went to Paris, where he concentrated upon anatomy in particular, attending the lectures and dissections of Mr. Sue. While here, he injected a kidney in so remarkable a manner as to excite the admiration of the French anatomists of that city—an art in which he had become quite proficient during his stay in England. He also wrote papers on "Suppuration" and "On the Art of Making Anatomical Preparations by Corrosion," and delivered them before the Royal Academy of Surgery in Paris, upon the strength of which he was elected a member of that society.

While on the continent he also visited other countries, being in intimate contact with the foremost men of the times. Voltaire is said to have been charmed by Morgan's personality. Morgan himself has written an account of his visit with Voltaire, telling of the kindly reception and excellent advice given him by the philosopher. While in Italy Morgan knew Morgagni personally, who claimed related lineage because of the great similarity of their names. They would often sit for hours discussing subjects pertinent to their own interests and the times. In a letter to Benjamin Rush, Morgagni speaks of Morgan in terms of highest praise. Upon Morgan's departure Morgagni gave Morgan his recent work "De Sedibus et Causis Morborum," inscribing in his own hand "Affini suo, medico præclarissimo John Morgan, donat auctor." When he was in Italy he was elected to the Belles Lettres Society of Rome.

During his passage through Switzerland, he passed the region we know as the "goiter belt" and here recorded a description of the signs, symptoms and etiology of that disease which should be of interest to all physicians in the region of the Great Lakes: "In this country [Turin], I could not but take notice of the tumidum guttur Alpinum which Horace mentions. It is said to be a disease arising amongst poor people from their drinking snow water. It is a sad sight when it got to any considerable degree. Some I saw who had a swelling on their throats and necks as large as their heads, projecting forward and some hanging down

Dr. John Morgan
(Reproduced from Morris's "Early History of Medicine in Philadelphia")

an enormous weight or rising up so as to entirely cover one side of their faces, a most shocking sight." This commentary shows the keen discernment of a mind that was prepared.

Upon Morgan's return to London he was elected to membership in the Royal Society, and was named licentiate of the Royal College of physicians of that city—honors not too freely bestowed.

During the period that Morgan had been abroad he had thought much about the founding of a medical school in his native city. He had conferred with several men upon the subject, of whom a contemporary American physician, William Shippen, was one. All with whom he had spoken received the idea kindly and, indeed, with enthusiasm.

Upon his return, in 1765, Morgan brought with him from the proprietary Thomas Penn, to the Board of Trustees of the College of Philadelphia, a letter endorsing the scheme to establish a medical school in conjunction with the college. He also presented the fact that many prospective students were

attracted to Philadelphia by the excellence of the physicians in that city and the brilliant social life that was there. The fact that a medical school was essential to the country, and that region in particular, was quite apparent and his plan met with immediate approval. On May 3, 1765, the Trustees of the college elected him Professor of the Theory and Practice of Medicine —the first in the United States. In this manner was established the first medical school in this country, the school which now flourishes as the Department of Medicine of the University of Pennsylvania.

On the thirteenth of May, 1765, Morgan delivered his celebrated address, "A Discourse upon the Institution of Medical Schools in America," which is described as being one of the classical books on medical subjects of the times and an excellent example of English composition. In this paper he recommends a very comprehensive preliminary education preparatory to the study of medicine, an idea which has been only fully grasped in the last twenty-five years. He subdivides medical education as a whole into anatomy, materia medica, botany, chemistry, and the theory and practice of medicine. To quote him: "It is Anatomy that guides the doubtful steps of the young votary of medicine through an obscure labyrinth, where a variety of minute objects present themselves in such a group as first to perplex his imagination . . ."

"As a skillful pilot informs himself of the least bank of sand or shoal where he is to avoid navigating his ship, so every follower of medical pursuits should be intelligent in the minutiæ of Anatomy, if he wishes to practice with ease to himself, and to the benefit of his patient . . ."

"Anatomy, Materia Medica, Botany, Chemistry and the Institutions, are only the ladder by which we are to mount up to practice."

His observation upon the uninformed practitioner of the art is also very interesting: "Remorseless foe to mankind: actuated by more than savage cruelty: hold, hold thy exterminating hand."

The prophecy in this paper, for the future of medical education, is indeed remarkable: "Perhaps this medical institution, the first of its kind in America, though small in its beginning, may receive a constant increase of strength and annually exert new vigor. It may collect a number of young persons of more than ordinary abilities, and so improve their knowledge as to spread its reputation to distant parts. By sending these abroad duly qualified, or by exciting an emulation amongst men of parts and literature, it may give birth to other useful institutions of a similar nature, or occasional rise, by its example, to numerous societies of different kinds, calculated to spread the light of knowledge through the whole American continent wherever inhabited." We of today, looking back, can see the fulfillment of this prophecy.

In addition to the Chair of Surgery held by Dr. Shippen, and the Chair of the Theory and Practice of Medicine, the Professorship of Chemistry, held by Dr. Benjamin Rush, and a Chair of Materia Medica and Botany, held by Dr. Adam Kuhn, formed the teaching staff of the infant medical institution. A course of lectures was prepared and delivered by each man, the price of each course varying according to the subject and the amount of material presented. In addition to such fees, which usually amounted to six pistoles (about twenty dollars) per course, there was a matriculation fee and demands for diploma seals and a donation for the upkeep of the library.

In 1769 Dr. Morgan had the pleasure of seeing the first fruits of his labors for the advancement of medical education in this country, for in that year the first honors in medicine in America were confirmed upon five young men.

Dr. Morgan retained the professorship of medicine until his death, when he was succeeded by Dr. Benjamin Rush.

His efforts were not confined to the practice of medicine and its teaching, for he had an active part in the establishment of the American Philosophical Society in Philadelphia. It was under his guiding hand that the first medical society was founded in 1765, although little record of its transactions remains. "He possessed an uncommon faculty for the acquisition of knowledge, his memory was extensive and accurate and he was intimately acquainted with the Latin and Greek classics." As a practitioner of medicine, he knew few equals. Dr. Rush says: "I never knew a person who had been attended by him, that did not speak of his sympathy and attention with gratitude and respect."

Upon Dr. Morgan's return from Europe and the resumption of his practice of medicine, he introduced several innovations to the practice of the art in this country. He is said to have been the first man in America who practiced medicine separate from surgery wholly from choice; in other words he was the first to specialize. He also tried to institute the practice of prescription writing and even went so far as to import from England an apothecary especially trained in this art. This proposal was not accepted by the medical profession with enthusiasm until some years later when several physicians with continental training joined Morgan in this practice.

An incident outside the field of medicine is an example of his acceptance and promulgation of progress in any form. It is a well established tradition in Philadelphia that he carried the first umbrella in America and, in spite of the fact that crowds followed him on the streets, he continued the practice until it was no longer a novelty.

In addition to being a scholar and organizer, Dr. Morgan was interested in other things. He was a rich man and collected works of art and a fine library, all of which were destroyed by the British in the Revolution. He was also a writer of some note, as is evidenced by his works: "The Reciprocal Advantages of a Perpetual Union between Great Britain and her American Colonies," and "An Account of a Pye Negro Girl and Mulatto Boy," as well as "A Recommendation of Inoculation According to Baron Dinsdale's Method." Morgan was always dressed in the height of fashion and, in fact, often set the style for the masculine dress of the times. He was meticulous in his habits and of impeccable moral character.

Of Morgan's marriage, little is known. He married Mary Hopkinson in 1765 and they spent a compatible life until her death in 1785. There was no issue.

Now comes the period of Morgan's life that brought tireless effort with no reward but bitter disappointment. That period is the one that follows Dr. Benjamin Church's conviction of treason and the appointment of Morgan as his successor as medical director of the Continental Army in 1775. He joined the army at once, going directly to the front. Here he found a deplorable state of affairs. The Medical Corps was chaotic. Morgan set about restoring order, but the old regime had set such a bad precedent that at every turn he was met with insubordination and lack of coöperation. He worked diligently, however, accomplishing much in spite of the obstacles he encountered. Although he perhaps handled the Medical Department of the United States in as efficient a manner as was feasible at the time, there were insubordinates who, at the slightest opportunity, were ready to deride him. An example of his tact and willingness to coöperate is seen in the case of Stringer, who was one of Morgan's subordinates. Stringer's affairs were in such confusion that he cauld not handle them in an efficient manner. Morgan, worried as he was with the complications of his own department, took over, straightened and rearranged matters so that Stringer could again proceed on a working basis. Stringer was not grateful, as he should have been, but continued to make trouble for Morgan. While Morgan was the nominal head of the department, he was not so in practice, for his subordinates went over his head to Washington. This fact, with the reports of inefficiency, led Washington to believe that Morgan was not as competent a director as he might be. Due to lack of finances, petty jealousies and intrigues, Morgan was finally dismissed in 1777. William Shippen, a former friend and colleague of Morgan, was appointed in his place. This estranged Shippen and Morgan, and their friendship was never renewed. Indignant because of his dismissal, although it was an honorary one, Morgan wrote his "Vindication," in which he demanded a court of inquiry to entirely free him of suspicious accusations. This paper is full of information on the existing conditions in the army and the conduct of the Medical Staff. Although he was publicly vindicated, he was broken in spirit and always thought that he had been unjustly treated. His friends, and those who realized the value of his work, however, did not hesitate to express in positive terms their faith and trust in him. "As Director General of the Army," says Harvey Brown, "Dr. Morgan evinced great administrative ability, untiring industry often under the most discouraging circumstances, a most amiable and exemplary tenderness toward the sick and a strict tenacity for his own dignity and the rights of the Corps of which he was chief. . . . When he had finally gone from it, the army found how great a

mind and true friend had been lost to its ranks; and all, from the commander-in-chief to the junior subaltern, united in their testimony before the congressional committee to relieve him from the aspersions cast upon his character by the malevolence of his enemies."

"The man who took Church's place was perhaps the most eminent American physician of his generation: John Morgan of Philadelphia."

"When we come to consider men and measures in the surgery of our Revolution, these names stand out conspicuously, all Philadelphians: Morgan, Shippen, and Rush."

Morgan, embittered by his unjust dismissal, says, "If it would have answered any valuable purpose; if the sacrifice of my life would have saved my country, I could have cheerfully offered it up. I shall not say so of my honor."

In the years from 1773 to 1783 Dr. Morgan was physician to the Pennsylvania Hospital, where he was admired, loved and respected. Because he had not been consulted in the matter of the free treatment of venereal diseases, Morgan resigned with the tart remark: "to devote their time or attention to the cure of diseases brought on by concupiscences without fee or reward, tends rather to the growth than the diminution of immorality."

After his dismissal from the army in 1777, nothing remained for him to do but to retire to private life and practice. Indeed, the hardships of campaigning had proven almost too much for him and he never entirely recovered his health or took any active part in affairs. He died October the fifteenth, 1789, at the age of 54, and was buried in St. Peter's Churchyard in Philadelphia.

A tablet in the Main Hall of the Medical Laboratories commemorates him.

Erected
to the
Memory
of
John Morgan, M.D., Edinburgh
William Shippen, M.D., Edinburgh
The First Faculty
of this
The First Medical School
in
North America
1765
Erected by the Medical Class
of 1907
June 19, 1907.

"It is an interesting character; not great certainly, as Washington was great, but earnest, highly intelligent, far-seeing, laborious, zealous, faithful. Sensitive, too, which he could ill afford to be. Nearly heartbroken by ingratitude, rendered somewhat peevish, perhaps, by trial and disappointment, as his "Vindication" shows, but always loyal to the cause and to his chief. His is one of the best names in our annals—a name too little known today; almost ignored by history."

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Commissioner
LANSING, MICHIGAN

ACCIDENTAL DEATHS IN MICHIGAN IN 1930

The number of deaths due to accidents in Michigan during 1930 was 3,805, a decrease of 236 from 4,041 deaths in 1929, which is a reduction equivalent to 5.8 per cent. The ratio of accidental to total deaths, however, was slightly greater. In 1929, accidental deaths comprised 7.2 per cent of the total deaths, whereas in 1930 they represented 7.4 per cent.

By far the greatest number of accidental deaths were due to the use of the automobile, there being a total of 1,560 deaths attributable to this cause as compared with 1,541 in 1929. Of this number, 1,443 were caused by automobiles alone; 90 were the result of railroad and automobile collisions; and 27 to street car and automobile collisions, the term street car including the interurban, few of which remain in Michigan.

The most important other cause of accidental deaths was falls; 638 deaths were due to this cause, as compared with 630 in 1929. Under the new classification which was in use in this office in 1930 (Fourth Decennial Revision) it is possible to get a closer division as to the type of accident. It is observed that in 81 cases death was caused by falling down stairs; in 20 cases it was the result of a fall during building

operations; and in 537 cases death was caused by a variety of other falls. Many of these, particularly of old people, were due to falls on the ice.

Next in importance as a cause of accidental death was accidental drowning, there being 405 deaths during 1930, as compared with 432 in 1929.

The hot, dry summer of 1930 is reflected in the fact that there were 77 deaths due to excessive heat, as compared with 46 in 1929.

Accidental burns was the cause of 197 deaths, as compared with 212 in 1929. Railroad accidents were responsible for 132 deaths, as compared with 182 in 1929.

It is understood that the entire list here given includes only accidental deaths and does not include homicides or suicides. It is, of course, always possible that a percentage of the suicides or homicides will be classified as accidental if there is no means of determining whether or not foul play was involved. The department is, obviously, dependent very largely upon the coroners' findings in these cases.

Below will be found a list of the causes of accidental deaths for 1930 and 1929. As stated above, under the new classification there is a closer subdivision of these causes but the comparison has been made as closely as possible.

ACCIDENTAL DEATHS IN MICHIGAN IN 1930

Classification No.	Cause of Death	Year 1930	Year 1929
177.	Poisoning by Food	12	23
178.	Accidental Absorption of Poisonous Gas	109	127
179.	Other Acute Accidental Poisonings	62	54
180.	Conflagration	67	109
181.	Accidental Burns	197	212
182.	Accidental Mechanical Suffocation	34	64
183.	Accidental Drowning	405	432
184.	Accidental Traumatism by Firearms	76	73
185.	Accidental Traumatism by Cutting or Piercing Instruments	6	11
186.1	Accidental Traumatism by Falling Down Stairs	81	....
186.2	Accidental Traumatism by Fall in Building Operations	20	630
186.3	Accidental Traumatism by Other Falls	537	....
186.4	Accidental Traumatism by Crushing, Landslide	15	8
188.	Injuries by Animals	24	27
189.	Hunger or Thirst	3	6
190.	Excessive Cold	21	27
191.	Excessive Heat	77	46
192.	Lightning	6	5
193.	Accidents due to Electric Currents	42	48
194.	Other Accidents	119	150
201.	Accidental Traumatism in Mines and Quarries	43	46
202.	Accidental Traumatism from Agricultural Machinery	14	....
203.	Accidental Traumatism from Elevator Accidents	6	....
204.	Accidents from Machines used in Recreation	3	....
205.	Other Machinery Accidents	45	89
206.	Railroad and Automobile Collision	90	101
207.	Other Railroad Accidents	132	182
208.	Street Car and Automobile	27	22
209.	Other Street Car Accidents	19	55
210.	Automobile Accidents	1,443	1,418
211.	Motorcycle Accidents	12	11
212.	Other Land Transportation Accidents	29	41
213.	Water Transportation Accidents	3	....
214.	Air Transportation Accidents	26	24
	Total	3,805	4,041

W. J. V. D.

STAFF CHANGES

C. D. Barrett, M.D., C.P.H., for the past four years county health commissioner of Lorain County, Ohio, became director of the bureau of epidemiology of the Michigan Department of Health on March 16. Dr. Barrett took his training in public health at Johns Hopkins University, and comes to Michigan with nine years' experience in administrative work.

Mr. W. H. Fraser resigned from the staff of the law enforcement division of the bureau of epidemiology on April 1 to return to the pastorate of the First Presbyterian Church of Centerville. Mr. Fraser left Centerville fourteen years ago to come to the Michigan Department of Health when the wartime program for venereal disease control was started. His work in lecturing as well as in investigation and law enforcement has given him a wide acquaintance among Michigan physicians.

ENGINEERING NOTES

Work at the Ypsilanti State Hospital is progressing steadily. Plans and specifications for the sewage disposal system have been completed and bids were accepted early in April. Construction work will be started as soon as possible.

A new filtration plant at Grosse Pointe Farms went into service the middle of April. The plant has a capacity to serve not only the village of Grosse Pointe Farms but neighboring municipalities as well, at a saving in expense over the present system of securing water from Detroit.

A new filtration plant is to be built at St. Joseph and plans have already received preliminary approval from the bureau of engineering.

CHILD HYGIENE FIELD NOTES

A diphtheria prevention campaign is being carried on in Marquette county at the present time, with the immunizing being done by the local physicians in the various communities. Annette Fox, R.N., Nursing Director of the Upper Peninsula, is doing the necessary organization work and assisting the physicians at the time the toxin-antitoxin is given.

At the little village of Gwinn, Miss Fox reported that fifty-seven preschool children were brought in for the treatments. The superintendent of schools is anxious that this be done annually in the lower grades and that the entire school be kept as nearly as possible 100 per cent immune.

Miss Nell Lemmer, R.N., staff nurse, has been loaned to Gratiot County for a number of months to demonstrate the value of county health work. Miss Lemmer began a diphtheria immunization program in Alma schools the week of March 16 and ordered toxin-antitoxin sufficient for 2,000 pupils. Miss Lemmer hopes to organize diphtheria prevention campaigns in other parts of the county before the close of the school year. The immunizing is done by local doctors assisted by Miss Lemmer.

Women's classes on prenatal, infant and child care were completed by Dr. Ida Alexander in Jackson, March 20. Her next series will be carried on in Allegan county.

A series of women's classes in Calhoun County was completed by Dr. Muriel Case on March 13. Since this time she has been teaching Child Hygiene to County Normal Training classes. Her next series of women's classes will be in Van Buren County.

Child care classes in rural schools were completed by staff nurses of the State Health Department in the following counties: Shiawassee, Macomb, Mecosta and Lapeer. Classes are now being conducted in Clare, Isabella, Tuscola, Sanilac, St. Clair and Ingham Counties.

MOUTH HYGIENE

The Bureau of Mouth Hygiene is keenly interested in a plan undertaken by the Michigan State Dental Society, through its educational committee, which promises to be of far-reaching importance.

This plan is to provide extension courses in dentistry in an effort to carry, direct and without cost to its membership, reliable information covering the more important problems with which the profession are now finding themselves confronted.

Of special concern to the Bureau of Mouth Hygiene, and a great help in its work, is the series of lectures and clinics on children's dentistry now made available by this plan. W. R. D.

THE THREE HORMONE TESTS FOR EARLY PREGNANCY

A clinical evalutation of various tests as represented by Charles Mazer and Jacob Hoffman, Philadelphia (*Journal A. M. A.*, Jan. 3, 1931), is as follows: The ovarian hormones; the sex-maturation hormone of the anterior pituitary gland; Aschheim-Zondek test; the female sex horome test, and the Siddall test. The authors conclude that the hormone tests for pregnancy are of distinct clinical value in the diffential diagnosis between early pregnancy, normal or ectopic, and pathologic conditions associated with amenorrhea or irregular uterine bleeding. The female sex hormone test is the more reliable when positive in that the proportion of error in nonpregnant women is less than 4 per cent. A rigid interpretation of the vaginal spreads and the elimination of abrupt and delayed reactions reduce this element of error considerably. The inability of the genital tract to utilize the small quantity of female sex hormone present in the circulating blood in women with ovarian deficiency results in its elimination by the kidneys; hence the occasional false positive reaction by the female sex hormone test in these cases. The compensatory pituitary hyperfunction accompanying ovarian deficiency is responsible for the comparatively large number of false positive reactions in the Aschheim-Zondek and Siddall tests. The tests performed individually render a positive reaction in about 75 per cent of early pregnancies; when combined, the percentage of positive reactions is increased to 90, by virtue of one of the three tests showing a positive reaction. A negative finding does not exclude the possibility of pregnancy; repeated negative reactions are fairly reliable.

COLONEL BELL BURR, A.M., M.D., F.A.C.P.

By H. E. RANDALL, M.D.
FLINT, MICHIGAN

"With affection and appreciation
to
Doctor Colonel B. Burr
From his fellow members of the Michigan State Medical Society"

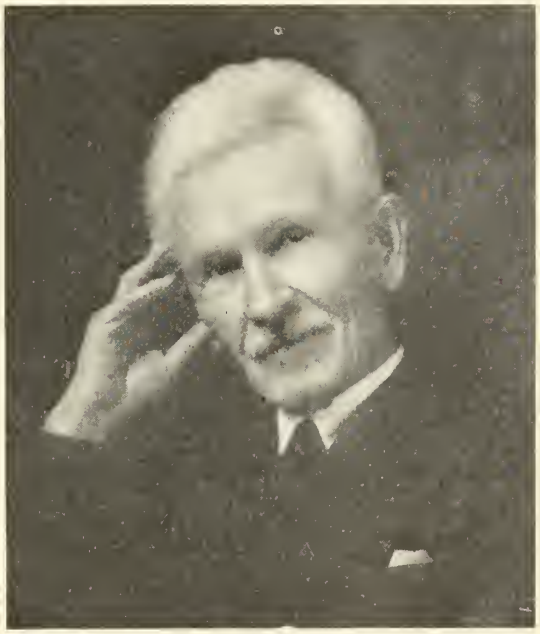
This inscription engraved on the silver drinking tray set presented to Dr. Burr last year at Benton Harbor, expresses truly the high regard in which Dr. Burr was held by his profession.

He had then finished the first volume of the Medical History of Michigan and was fearful lest he should be taken before he could complete the second volume, a work on which he devoted full time for four years. This was a labor of love. Dr. Burr loved his profession and was anxious that he might be permitted to present it as a token to the devoted men who had undertaken as a life calling the relief and alleviation of human suffering. He was supremely happy in this task, and he hoped that his cataracts would not render it impossible. Dr. Burr never assumed responsibility lightly but threw his whole strength and energy into whatever he undertook.

Earnestness and sincerity were his two most prominent traits. His last illness was precipitated by his sense of obligation. He took Senator Peter Lennon's place when the Senator was unable to keep his appointment in a public debate on Capital Punishment. Dr. Burr had very decided views on capital punishment and the crime wave, and was not unwilling even in failing health to meet the opposition.

Dr. Burr attended the public schools and the Olds and Rorks Academies at Lansing. He was a learned man, being a life-long student and one who read French, German, and Latin authors. His large library was practically given to the Flint High School, which bought the land of the Oak Grove Sanitarium upon Dr. Burr's retirement. During the last few years after reading a book, he passed it on to his friends as a present.

His faithful attendants in the institution were substantially remembered by him upon his retirement, and some own their homes today because of his generosity. Oak Grove during the time of his professional activity had a national reputation for mental cases. Dr. Burr never made any regulation that he was not willing to follow himself. An incident told me by an attendant illustrates this: While Dr. Burr was talking to a patient the latter was stamping his heel upon Dr. Burr's foot. There was in Dr. Burr's face no evidence that he was aware of the patient's action. When the patient found he had not diverted the doctor's attention, he listened to what the doctor had to say.



Dr. Colonel Bell Burr

Dr. Burr started out as a messenger clerk in the Michigan State Legislature, was cowboy for a time, then a mail clerk until he studied medicine.

While driving Dr. Burr back from the last state medical meeting he told me a story which he said taught him a lesson that he never forgot. One day when he was a mail clerk at Lansing, he asked Mr. Bingham, the postmaster, if he might go out for a walk to see if it would relieve his headache. The postmaster said yes, and asked him if he would mind taking a package to Mrs. Bingham. A few days later he had another headache and again asked permission to talk a walk. This time the postmaster gave him another package to deliver, and remarked that he hoped that he would deliver it with better grace than formerly. Young Burr replied: "Did I not deliver the package?" "Yes, said the postmaster, you did, but the

expression on your face was sufficient to let anyone know that you did not consider yourself the postmaster's messenger-boy." Dr. Burr says: "This experience has aided me immensely all my life, and many times I have listened to bores without flinching. It taught me courtesy, and also that all labor is reputable."

Dr. Burr was a striking figure, erect with a fine shaped head, his thick white hair brushed straight back, and a pair of piercing black eyes. His manner was always courteous and his bearing that of the true gentleman. One day in passing a rodeo advertisement, he said: "I was able at one time to do all those things." Three years ago while on the way to a meeting of the American College of Physicians, he was taken sick, was operated upon, and recovered from a suppurative appendicitis.

Dr. Burr had a keen knowledge of mankind, of its foibles and its emotions, and was always considerate of the thoughts and feelings of others. He was tolerant but hated hypocrisy, and was always frank in his opinion when expressed.

In his profession of Psychiatry he was a national figure. His "Practical Psychology and Psychiatry," now in the sixth edition, is one of the best known in its field. Dr. Burr always insisted that it was impossible to define words because other words must be used and hence further definitions are necessary, but his clearcut definitions of insanity, illusion, delusion, and hallucination are classics in Psychiatry.

He was the author of many papers on the subject of nervous and mental diseases, and was probably the first to study the symbolism of the insane. One of his addresses was on the doctor in fiction. Dr. Burr's style was always clear and his command of English masterful. He had no difficulty in conveying to his hearers his meaning.

Dr. Burr's mind was many-sided, as author, historian, and alienist, but with all his learning, he was a true friend, and being a true friend he had a great host of friends. The medical profession has lost one of its great lights, humanity a friend, but he has bequeathed to posterity a heritage of medical lore which in the centuries to come will be a mine for the future student of history.

I wish my feeble pen had power to portray this great man, the courteous, learned, thoughtful friend who will be with us no more except in memory.

About a year ago we discovered that he had a large abdominal aneurism and we knew that honors richly deserved must be hurriedly given. At the State Medical meeting banquet given in his honor, some of us knew that this would be his last, but his work is finished and finished well.

Dr. Burr died in the early morning of April 11, 1931, at his apartment in the Hotel Durant, at Flint, Michigan. Ten days before, he had an attack of apoplexy following a debate on Capital Punishment. The funeral services were held at St. Paul Episcopal church and the burial was in Glenwood Cemetery, Flint. He was born in Lansing, November 3, 1856, was 74 years of age, and had served as Medical Superintendent of the Eastern Michigan Hospital at Pontiac and Medical Director of the Oak Grove Sanitarium for nervous and mental diseases. He was graduated from the College of Physicians and Surgeons in New York, in 1878, and retired from practice in 1920.

Dr. Burr served as president of the Michgan State Medical Society in 1910, after having served on the Council as Chairman for several terms. He was a Fellow of the American College of Physicians, and a member of the American Neurological Association. He had been secretary, vice president and president of the American Psychiatric; was a member of Societe Medico Psychologique of Paris; had served on the Michigan State Board of Registration in Medicine. He was an honorary member of the Genesee and Michigan State Medical Society and a Fellow of the American Medical Association, and had been president of the Detroit Society of Neurology and Psychiatry and the Detroit Academy of Medicine.

Last September the University of Michigan conferred on him the honorary degree of Master of Arts at the opening of the Medical Department.

He leaves a wife who is an artist of repute, and a sister, Mrs. J. D. Phelps, of Lansing. A daughter, Miss Earnestine Randal Burr, died in young womanhood.

Dr. Burr was a member of the Detroit Club, a 32nd degree Mason, a Knight Templar, Shriner, an Elk, a member of Flint Country Club, Wranglers, and Flint Shakesperian Club, and was an honorary member of the Flint Rotary Club.

Besides a busy professional and social

life he made several trips to Europe and had traveled extensively throughout the United States. He has left us a "Practical Psychology and Psychiatry," a two-volume "Medical History of Michigan" and a small volume of "Sayings of a Septuagenarian."

"Philosopher and peasant are alike completely ignorant of the remote past and of the entire future—of beginnings and of the end."

"Well done good and faithful servant, enter thou the joy of the Lord."

He has gone to join Kay, Kiefer, Manton, Longyear, McGraw, Vaughan and the other great medical lights and leaders whose memories it gave him a keen delight to honor.

FROM THE PRESIDENT ELECT AND FELLOW TOWNSMAN

The practice of medicine owes much to many men. The surgeon with his manual dexterity and good judgment. The laboratory technician with his dogged determination to do honest research work along original lines. The internist with a broad outlook and a keen sense of observation, tempered with tact, patience and human sympathy, have all added their share in bringing Medicine to the high plane it now occupies. An outstanding figure in this field of endeavor was Doctor Colonel Bell Burr. He was possessed of that rare combination, a keen analytical mind and a most happy faculty of expressing his thoughts in forceful language.

He was a most interesting man of rare attainments; an outstanding figure in his chosen profession; a financier of no mean ability; a writer of note along many lines; a man who had the courage of his convictions, at all times and under all circumstances; and with all one of the kindliest men it has ever been my good fortune to know. Conscientious to a fault, one of his last thoughts voiced a querying doubt of "His work being well done."

His death removes from our ranks a wise counselor and a most lovable companion. His memory will ever be an abiding inspiration to his sorrowing friends.

Carl F. Moll.

RESOLUTIONS ON THE DEATH OF COLONEL B. BURR, M.D.

In the ripeness of years, everlastingly endeared to a multitude of friends, Colonel B. Burr died on April 11, 1931. Dr. Burr has gone.

As a distinguished member, Ex-Councilor Past-President and Author of our Michigan Medical History, Dr. Burr served faithfully, earnestly, aggressively and efficiently. He contributed of time and self in unstinted measure. He led, he counseled, he inspired to such degree that he enriched and enhanced not only the interests of our profession and its members but also that of the people and the state.

Possessed of a personality that was unique, a mind that was discerning, a character that was of outstanding integrity and a friendliness that induced confidence, he reflected in high degree the ideal attainments of a man, a physician, a citizen and a friend. Therefore:

Be It Resolved: That there be hereby recorded in the records of the Michigan State Medical Society this recognition of his life and his contributions to our Society, and

Be It Resolved: That we extend to Mrs. Burr and his sister our heartfelt sympathies and condolence. Assuring them that we mourn with them, and that they as well as we find solace in the sacred memories that his life bequeathed.

B. R. Corbus
J. D. Bruce
F. C. Warnshuis

By action of the Executive Committee of the Council on April 15, 1931.

Courses for Graduates

The Department of Post-Graduate Medicine
and
The Michigan State Medical Society

Announce

The Third Annual General Practitioners' Course
to be given at the Receiving and Herman
Kiefer Hospitals, Detroit, June 15 to 27, 1931

Realizing that the responsibilities of most physicians in general practice require a working knowledge in all fields of Medicine, this Course has been arranged to afford the widest possible opportunity to come in touch with the newer methods of diagnosis and treatment.

While the subjects are scheduled so that those especially interested in Medicine or in Surgery may avail themselves of one week's instruction in either of these fields, the two-weeks' period is recommended as much more adequate for a well-rounded review.

The Course will consist of 60 hours of instruction, the daily schedule being from 8:00 A. M. to 1:00 P. M.

In addition to the Practitioners' Course, periods of one week each have been arranged in the following divisions, some of which are given upon the completion of the two-weeks' period and others at intervals throughout the year:

Fractures	Mental Hygiene
Proctology	Growth and Development
Tuberculosis	Serology
Cardiology	Roentgenology
Gastro-enterology	Physical Therapy
Allergy	Laboratory Technic

Metabolic and Nutritional Diseases (adults)
Diseases of Blood and Blood-forming Organs
Gynecological Pathology, Gross and Microscopical
Infectious Diseases of Infancy and Childhood
Infant Feeding and Nutritional Diseases of Childhood

For further information, address

Director of Post-Graduate Medicine
University Hospital, Ann Arbor, Michigan

THE JOURNAL

OF THE

Michigan State Medical Society

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Contributors are responsible for all statements, conclusions and methods in presenting their subjects. Their views may or may not be in agreement with those of the editor. The aim, however, is to allow authors as great latitude as the general policy of The Journal and the demands on its space may permit. The right to reduce in length or to reject any article is reserved. Articles are accepted for publication on condition that they are contributed solely to this Journal.

All communications regarding advertising and subscriptions should be addressed to F. C. Warnshuis, M.D., 2642 University Avenue, St. Paul, Minnesota, or Suite 1508 Grand Rapids National Bank Bldg., Grand Rapids, Michigan.

MAY, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

POST-GRADUATE MEDICINE

Elsewhere in this number of the Journal will be found the tentative program of the courses for graduates to be given by the Department of Post-Graduate Medicine of the University of Michigan and the Michigan State Medical Society. This, which is the third annual general practitioners' course, as announced, will take place at the Receiving and Herman Kiefer Hospitals in Detroit from June 15th to June 27th.

As stated in the quotation from an address by Dr. Christian which appears on the cover of this number of the Journal, there is no such thing as standing still; we either progress or we fall behind in the race. One may take his choice. To do the latter all one requires to do is to do nothing at all. Medical books are said to become obsolete within five or ten years from the date of publication. If this be the case how obsolete do the general practitioner and specialist become who do not submit their knowledge to constant revision?

The courses here offered make it possible for one to keep abreast with the more recent advances in the subjects in which he is interested, with the minimum loss of time from his work. Furthermore they come at a time when we should think of vacations. To avail oneself of one or more short intensive courses is really a vacation. The doctor observes, studies or he listens to a clinical lecture but he has not the responsibility of the condition of the patient. After all it is responsibility and not work that wears and thus makes demands of us for recreation from time to time.

NEPHROSIS

The term nephrosis as used by many writers has been responsible for much confusion and loose thinking. The etymological sense of the word is wrongly applied, but, like many other words, usage has forced its acceptance. In current literature one finds its meaning limited to what has been called pure lipoid nephrosis, a primary degeneration in the tubules with well defined clinical symptomatology. Another use of the same term is less restricted and may include many types of degenerations to which appropriate names are given to indicate the etiology or an accompanying disease.

It was doubtless the purpose of Friedrich Müller, who introduced the term nephrosis in 1895, to use a word for contrasting and differentiating renal degeneration from nephritis, a term meaning primarily inflammatory reaction. Henry Christian has taken occasion to point out that "as clinicians we may be unable during life to predict accurately whether the pathologist is going to find more or less nephrosis or less or more nephritis." This same author after stating his views finds no justification for regarding nephrosis as other than a form of Bright's disease but his studies were confined to adults, children being purposely omitted on account of lack of experience. He quotes

Baehr as saying he had seen but one adult case of the pure type but in children pure nephrosis had been seen frequently and was usually superimposed upon chronic pneumococci infections in the upper respiratory tract.

It must be remembered that one type of renal lesion becomes engrafted on another, making it impossible to tell which has been primary.

In the pure primary lipoid nephrosis with the degeneration persisting over a long time and giving an adequate and characteristic symptomatology, the terminal event may frequently be an infection. The primary pathology may have been an infection and the terminal renal change degenerative, giving typical clinical symptoms. To the pathologist the diagnosis is nephrosis. To the clinician with the primary infection in mind, the diagnosis is nephritis.

The recognition of nephrosis as a renal disease entity has been sufficiently affirmed now by a galaxy of writers such as Müller, Volhard and Fahr, Munk, Epstein, Rigler and Rypins, Bell, Clausen, Davison and Salinger, Boyd, DeRenzende, Marriott, Aldrich, Bennet, Rabinowitch, Davidson and many others.

The etiology of nephrosis in some cases is unknown. In children sinus infections, pneumococcus infections, metabolic deficiencies have been prominent causes. Among adults, syphilis and other infections have been assigned as the chief etiologic factors. Epstein's theory that the cause is extra-renal has been staunchly supported. Circulating toxic substances from different sources are undoubtedly the immediate cause.

The clinical diagnosis of lipoid nephrosis may be successfully made from the presence of the following criteria:

1. edema, anasarca, and effusion in the serous cavities
2. marked albuminuria (sometimes 15-20 gm., the equivalent of 12 whites of eggs daily)
3. marked increased in the cholesterol content of the blood (sometimes 800 mg. per 100 c.c.)
4. reduction in the total protein of the blood serum
5. inversion of the normal ratio of albumin to globulin
6. doubly refracting lipoid bodies in the urine
7. oliguria and high specific gravity
8. gradual onset, protracted course
9. normal blood pressure and heart, normal N. P. N., normal optic fundus.

Of the above features of this disease the existence of edema and albuminuria and the absence of cardiovascular system involvement are most important.

The pathology of the pure type of nephrosis exhibits kidneys at first large with pale, cloudy, thickened cortex. The normal markings are somewhat obscured, some opaque spots may indicate lipoid deposition. The tubules are widened and contain exudated albumin and degenerated cells. In late stages the kidneys may be contracted.

From the classical type of nephrosis certain deviations occur that belong nowhere so truly as in association herewith. Amyloid disease appears essentially similar in many features. In 1916 Munk classified the following types according to the nature of the degeneration observed: albuminous, fatty, lipoid, necrotic, hyaline; amyloid, vacuolar, glycogen (diabetic). Bell calls the nephroses degenerative nephropathies and designates two types: *Simple* and *Atypical*, under the simple he lists nephrosis due to chemical poisons; bacterical poisons and jaundice. In the atypical he includes the nephrosis of pregnancy and the amyloid nephrosis.

It is important to emphasize that the term nephrosis shall direct the mind to a dominating renal tubular degeneration with associated edema and albuminuria without at first cardiovascular involvement, also to differing etiology and progression of the disease which produce variations in the kidney from large white size to the contracted form. The symptoms may be expected to change as complications obscure the primary conditions.

JAMES E. DAVIS.*

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*Dr. Davis is Professor of Pathology at the Detroit College of Medicine and Surgery. He has made very important studies on renal pathology. The editor takes this opportunity to express his gratitude to Dr. Davis for this carefully written editorial on Nephrosis.

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THE PASSING OF DR. BURR

News of the death of Dr. C. B. Burr of Flint on April 11th came as a shock to his numerous friends in the medical profession. Dr. Burr was active and apparently in his usual health up to within a few days preceding his death, when he was seized with a stroke while engaged in a public address. As is well known, he had retired from the active practice of his specialty as psychiatrist for a number of years, though the last four or five years were largely taken up with the writing, editing and compiling of the Medical History of this State, which he saw through to completion a few months ago. We have noted from time to time in the columns of the Journal the progress of this work, as well as the recognition of his labors by the profession and also by the University of Michigan, which conferred upon him the honorary degree of Master of Arts last October. Both these honors Dr. Burr considered sufficient reward for his efforts. He strongly opposed the inclusion in the work of a biographical sketch of himself, a matter which was strongly urged by his friends. However, the Medical History is his monument. Someone has said that the best of a man is his book. As versatile in conversation as Dr. Burr was, the best of him is to be found in his writing, in which he exercised meticulous care even to the checking up of commas, as every editor knows. He has made many trips to Detroit and to Ann Arbor during the progress of the History to verify dates or to obtain the correct spelling of a name. If we may take liberties with a famous epitaph to make it applicable to Dr. Burr it would be, Si quaeris monumentum lege historiam medicinam Michiganensam.

To the last Dr. Burr maintained a keen and lively interest not only in the profession of which he was such a distinguished member, but in the civic life of his home city as well. To those who were privileged to know him intimately he exhibited all those qualities of mind and heart which go to make the truly cultured gentleman. He was a true friend who never neglected to recognize a favor with a grace of commendation which few can command.

It was the writer's privilege to know him intimately about five years but these were years of the closest friendship in which Dr. Burr proved a frequent correspondent and visitor of rare charm who always left one his debtor. He was broad in his sympathies, one who may, to quote Homer, "Be (considered) a friend of man who lived in a house by the side of the road." He was optimistically philosophical in his outlook upon life and possessed a whimsical humor that is as rare as it is a desirable quality in man. To Dr. Burr it was inborn.

"He scarce had need to doff his pride or slough the dross of earth,
E'en as he trod that day to God, so walked he from his birth,
In simpleness and gentleness and honor and clean mirth."

The medical profession has lost a true friend and benefactor whose place cannot be filled. In this the hour of her bereavement, Mrs. Burr, whose loss is irreparable, has the sympathy of the profession that was so dear to her husband's heart.

"As life runs on the road grows strange,
With faces new, and near the end
The milestones into headstones change
'Neath everyone a friend."

ULTRA-REFINEMENTS IN DIAGNOSIS

In some instances diagnostic methods have become a matter demanding so much skill in their performance that their value, owing to the risk assumed, becomes a matter of serious question. A diagnostic method that is fraught with a possibility of great danger to the patient is, we think, not justifiable. We have in mind a method of radiography of blood vessels made possible by the injection into the blood vessels of a 25 per cent solution of sodium iodide. One purpose of the procedure among other things is the exact localization of cerebral tumors. The pioneer in this field is a physician, Egas Moniz, of Lisbon, who presented a paper on Arterial Encephalography which appeared in 1928. More recently two Japanese workers have repeated this diagnostic method. Among the dangers of the method are in the first place its painfulness, which makes necessary general anesthesia; epileptiform attacks and two cases of hemiplegia have been reported following injections. Among the untoward results reported by others are

pain, gangrene and iodism following the injection of the sodium iodide solution.

The method has also been used for the purpose of studying the condition of the circulation in the limbs in cases of gangrene, fracture and aneurism. The injection has to be made with the patient on an X-ray table, thereby facilitating immediate radiography, which is absolutely necessary if the peculiar method is to have any diagnostic value at all. In fact, the radiogram must be made the instant of the injection, inasmuch as the solution becomes rapidly dispersed. It is needless to say that in this, as in any other case in which injections are made into the body tissues, strict asepsis is necessary; therefore the X-ray apparatus must be in the operating room. This diagnostic method known as arteriography will require much farther refinement as well as to be brought well within the confines of safety and comfort before its general use will be justifiable.

MEDICAL INSURANCE

The medical profession is awakening to the fact that they have been making a contribution to society out of all proportion to their financial ability, and that the burden should be borne by those who receive the benefit to a greater extent than has ever been the case in the past. Dr. Charles G. Heyd in a recent address before the New York Academy of Medicine, estimated that the annual contribution of the medical profession to society is approximately $350,000,000. The remedy suggested is some form of insurance in which the costs of medical care might be distributed over a period of time to enable patients to meet them.

Commenting on some form of solution of the medico-social problem the *New England Medical Journal* offers the following sage advice:

"While it is encouraging to learn of the application of practical ideas to the economic problems before the medical profession and society at large the fundamental needs are, first, the development of unanimity in the profession in entering upon constructive study of these questions, and, second, leadership which will not only present clearly defined plans but will bring to bear that degree of mental control over the divergent interests which will result in effective consideration.

"As it is now the great question seems to be, is not the medical profession divided in its conceptions of the problems before it and is it not waiting for some Moses to lead the wandering tribes out of the desert?"

If we are to accomplish anything worthwhile the profession must unite on some one plan even if in the opinion of many of its members it may not appear perfect.

INSURANCE CERTIFICATES

During the last three years a persistent effort has been made by the Civic and Industrial Relations Committee to arrive at some definite understanding with the Health and Accident Insurance Companies regarding the payment of a fee of not less than $2.00 for filling out each preliminary and final claim proof.

Numerous committee meetings, and a conference with representatives of a number of the outstanding insurance companies, have been held and every angle of the situation has been carefully analyzed. The insurance companies strenuously object to the plan and argue that Michigan represents only a small section of the medical profession of the entire United States and are unwilling to concede to the demands of the profession.

Nevertheless, by its action, Michigan has created the interest and favor of other state medical societies in the question involved. The rights and privileges of the individual physician are being encroached upon by the insurance companies' continual insistence that the filling out of claim blanks is only a part of the physician's professional obligation to his patient.

This whole question is one which affects every physician in the United States. It affects their income, their time and their convenience. There are approximately 145,000 physicians in the United States. From the statistical standpoint if only one insurance blank were filled out yearly, by each physician, it would mean a total sum of $290,000, which the physicians are saving for the insurance companies. Every physician fills out at least ten to twenty of these blanks a year, which means that over a million dollars a year are being contributed to the incomes of the insurance companies. There can be no question that the profession is justified in the stand which they have taken.

It now becomes quite apparent that the question is one for the consideration of the American Medical Association, and the

Michigan delegates are proposing a resolution at the meeting of the Association at Philadelphia in June, which covers this subject from a national viewpoint. Until such action is taken by the American Medical Association as is deemed advisable, the physicians of Michigan are urged to adhere strictly to the import of the Resolutions and refuse to fill out blanks for the insurance companies until advance payment of the fee has been arranged.

H. S. Collisi.

MEDICAL KNOWLEDGE GROWS

Dr. W. J. Mayo is reported to be opposed to the long premedical training demanded of medical students. He is alleged to have said that the period of from two to four years University training required before the student begins his medical course dulls the mind and leaves the physician at a comparatively advanced age of thirty years before he begins to practice. There is a great deal of truth in these statements. It is unfortunate that, with such an extensive training, the physician has such a comparative short time, thirty to thirty-five years, for his life work.

We are also inclined to the view that much of the academic and other courses in medicine might be materially shortened to advantage (we will not say which). Medical knowledge has become so voluminous within the past two decades that it is impossible for one mind to master it all. Why attempt it? Why not educate the student to think, to reason; rather than try to cram his head with fast accumulating knowledge? Will not the intelligent person make a better doctor than he who is capable of mastering the various fields of knowledge?

Much has been said about methodical and intensive training in the specialties; with the development of medical knowledge there was never greater need for such training. After a broad foundation in the principles of medical science, let the graduate choose his specialty and train in it as intensively and as thoroughly as circumstances permit.

And there is another phase to professional education. The demands on a young man's time are so great that he can do but very little to help himself financially. In fact the self-supporting student is not encouraged to enter upon a course of study in any of our best institutions of learning. Circumstances are such that the University is not wholly to blame. The father who *worked* his way through college in many instances has to *work* his son's way through and as a result how often we find the father and mother on the down grade of life after educating sons in some profession, when the parents should have been in a position to slacken the pace and to take life more leisurely.

AN ATTEMPT TO LEGALIZE SO-CALLED "SCHOOLS"

The chiropractic bill was passed by the House of Representatives at Lansing on March 17th with 57 members voting for the bill and 19 voting in opposition to it. Herein is a matter that deserves some study by the medical profession. There are yet fairly prominent people in this State who misinterpret the motives of the medical profession, or do not comprehend what we are driving at when we advise against the legalization of cultism. It is beyond our purpose here to rehearse to medical readers the reasons for opposing so-called healing cults. That is apparent to anyone with a medical degree. It is as apparent as the futility of endorsing a system of accounting or of engineering based upon the theory that 2 plus 3 makes 6 or that 3 multiplied by 4 is 7. The absurdity of such a proposition is not greater to the medically trained mind than the so-called principle that disease is due to misplaced vertebræ. It may be, on the other hand, that men lack discrimination when it comes to vote on a matter concerning which they have little or no interest.

Chiropractic is to all appearance a moribund cult. So why should we worry? The principal reason for apprehension is the fact that the legalization of the cult would make Michigan the stamping ground for a great many of its members left throughout the United States. It would greatly interfere likewise with the regular practice of medicine to be under the necessity of treating patients who had temporized for greater or less time with irregulars.

The strongest argument perhaps against the recognition of cults by the State consists in the fact that Michigan was the pioneer State for medical education, for many decades exacting a very high standard of med-

ical training. Why therefore permit the practice of healing by those who do not come up to the standard exacted by the State?

THE MEDICAL HISTORY OF MICHIGAN

Elsewhere in this number of the Journal will be found a review of the Medical History of Michigan which, completed, has been announced several months ago as consisting of two large volumes. While this is a book that will not become obsolete in the sense of purely scientific work in medicine, it would be well if the members of the Michigan State Medical Society would avail themselves of the opportunity to purchase sets as soon as possible rather than deferring the purchase to some future time. Doctor, if you have not already procured the two volume set, communicate with Dr. Warnshuis, Secretary of the Society. The price complete is $10.00 and a set will be forthcoming.

EDITORIAL NOTES

A contributor writes us that he has revised his paper twice since first written so as to make it up to date. On submitting it to one of the national Journals he received the reply that the publication could not publish it under a year, by which time, according to the writer, it would be completely out of date again and would require another thorough revision. How medical science does move!

Lord Dawson, physician to King George V, tells a story of an Englishman supported by the "dole" who consulted his physician for some ailment. After the doctor had prescribed for his patient the latter told him that he had been offered a job the week before which would have paid him ten shillings more than he was receiving from the government. "After thinking it over carefully," said he, "I turned it down as I prefer to be independent."

An editorial in the *London Lancet* commenting on the nature of insects commits this biologic gem: "They [the insects] have followed in their family descent a faulty engineering model, the converse of the vertebrate plan; they keep their soft parts inside and put their hard skeletons on the outside. This, from mechanical and chemical reasons, has imprisoned them within small limits of possible size. But we have turned our guts about and always wear them inside out; and in so doing have become the masters of our fate."

WEELUM IN TROUBLE

O! Mr. Editor, if ye hae ony sympathy or ony bowels o' compassion aboot ye, wull ye gi' me a wee bittie, for a'm sair distressed.

Ye ken a'm brocht oop afore th' ethics committee. Din'na tell onybody.—A'm sae abashed.

A'm chairged wi writin' medical articles wi'oot signin' ma name tae them.

Ane o' th' committee (the ane wi' th' beld heid) caught me in th' ha' an' telt me a' aboot it. He fairly rair't at me. "Weelum," he says, "Ye daumned auld skate, noo thet we hae ye in oor clutches, we'll coost ye oop oot o' a' th' medical societies. Afore we ken onything aboot it, ye wull be hae'in' yer picture took an' printin' it intae th' paper, an' ye'll be hae'in signs made, wi' letters a foot heigh, curin' a' kin's o' things in baith men an' women. Sam' wan aught tae wrang yer neck." Man,—bit he wis haird bil'd.

Weel, Gentlemen, ah said tae them, when they ca'ed me intil th' meetin', hae ye only th' ane chairge agin me? An' man,—ye should o' seen their faces, th' astonishment o' them,—ah never see'd th' like afore.—Why, Weelum! ane o' them said, "Hae ye been doin' ony ither thing against th' bans?" Humph, ah says, ye dinna ken onything aboot me. Coom awa oop tae ma office an' ah'll gi' ye a basket o' things ye can chairge against me, a' o' which ah'll admit, sae that ye wull hae nae bother tae prove.

Weel, sir, ah filled a' their pooches wi' chairges that they micht bring against me,—hunder's o' them, a' kinds o' them, young an' auld, baith afore ah was a Doctor an' aifter that, baith bad an' wicked, thousan's o' them, an' when they were ga'in awa, ah said, noo gentlemen (aye, ah ca'ed them gentlemen) gang awa back tae yer meetin'. Pit a' thae chairges intil proper order, index them under the proper subjects, hae columns an' pages numbered, write them a' doon on pink paper, tie them a' oop intil ane bundle wi' bonnie blue ribbon an' fetch them a' back tae me some bricht sunnie morn, when we can a' tak' a walk awa doon the road tae where th' road bends aroon' th' hill. There's a wee bit brae there, where we can a' stan' an' look doon th' vale an' see th' smoke an' blue blazes comin' frae th' smoke stacks o' th' Toon ah'l tell ye a' tae gae tae.

It's a bonnie nicht, th' nicht. Guid nicht.

Weelum.

"Weelum" has been contributing to the pages of the Wayne County Medical Bulletin. He has even intruded in the Tonics and Sedatives columns of the Journal of the A. M. A. besides several contributions to the Journal of the Michigan State Medical Society. He persists in signing himself Weelum, so that we feel about the same about him as the ethics committee. We feel that Weelum should at least divulge his nationality anyway.—Ed.

SYMPATHY

Dr. Emil Amberg, of Detroit, is the Editor of the Rainbow, an interesting little publication gotten out monthly by the Detroit League for the Hard of Hearing. We reproduce the leading editorial by the Editor in the April number.

The ingenious writer, Erwin Liek, has written a book entitled "The Wonder in Medicine." He tries to explain why people depart "from the path of orderly thinking" as the great scientist Virchow ex-

pressed himself. He quotes Goethe's saying, "Truth is to be found easily, but just that does not satisfy you." Wonder-healers prove, says Liek, that not reason but feeling influences people. We must admit that the imagination is frequently of great influence. A powerful personality exercises a great influence on his surroundings.

Many people are suffering from an imaginary ailment. These patients are greatly influenced by a so-called authority, a man who has been advertised sufficiently and who will have results when others have not. The Austrian wonder-healer Zeileis is an example, a man of strong personality but alleged to show no knowledge of real medicine. It is reported that he has prevented some people from receiving medical care at the proper time. His star is said to be sinking because damage suits are reported to have been started against him. These charlatans can be found anywhere, be they so-called healers, or other people who play on the imagination and emotions of people.

The many fake remedies for deaf people belong in this class. It must be admitted that in some instances the medical profession is to blame. The individual who suffers wants not only help but also sympathy. Some physicians have lost sight of this. The physician must not only treat the particular ailment, but the whole patient.

The really great physicians know this. Proper medical treatment is not sold like a pair of shoes, for instance. The mechanical dispensing of pills for this or that ailment without taking into consideration the patient as a personality smacks too much of commercialism, which has no place in medicine. A sympathetic understanding of the individual with all his peculiarities, aims and feelings is necessary. A friendly and reassuring word goes a long way and must be combined with advice and help based on medical science and experience.

Many cults, many fake remedies and many fake appliances are made possible by the lack of interest of some physicians. Proper use of massage and physiotherapy by physicians, proper understanding of the mentality of the patients would have prevented systems of treatment which are employed by non-medical men sometimes to the detriment of the patient. Conscientious work on the part of the physician, proper understanding of the patient, who is a human being with all possible frailties, sympathetic advice and carefully selected and individual treatment will give to a patient that state of mind which is an essential factor in influencing his complaints and in helping him as much as is possible.

Dr. Emil Amberg.

FAMILY DOCTORS
(New York Times)

After being long bombarded by articles challenging their very existence, a representative of the family doctors has come to their defense. Dr. Wingate M. Johnson, whose answer to the attack appears in the March Atlantic Monthly, is a general practitioner. He admits that the high cost of medical care for the middle class is a serious problem. But he does not believe it can or should be solved by any of the plans suggested by people who dispense advice to the profession. The modern family doctor should take the place of the old family doctor whose obituary is being written every few days. He need not be a general practitioner, but he should have had enough practice to be able to direct a patient to the proper specialist.

In the matter of fees, Dr. Johnson thinks public sentiment is unjust. The cost of everything else has gone up, and it is unreasonable to expect the cost of medical care not to follow. By selecting the right sort of man for medical adviser, a family may be sure that he will do his best to merit the confidence reposed in him. His personal interest in the patient and the patient's family and his professional pride insure his zeal. Such a guardian of the family health is worth more to the family than the occasional emergency care of a specialist or the disinterested attention of a medical firm or a public clinic. He is worth more and he costs less.

Dr. Johnson's replies to specific criticisms are practical. He believes in specialists when they are genuinely suited to the narrow field they choose. He thinks it is important to keep abreast of medical progress, but he also thinks that the talk of the difficulty of keeping up with new discoveries, treatments and inventions is mostly nonsense. A good family doctor is not confused or baffled by new steps in medical science. On the contrary, as Dr. Crookshank wrote recently in The Forum: "Real science simplifies and does not confuse; it synthesizes and leads back to first principles, so that men of intelligence and judgment can with ease keep themselves abreast of the best opinion."

There are undoubtedly good arguments against Dr. Johnson's sweeping condemnation of group practice and State medical care or compulsory health insurance, particularly on the theoretical side. But to the average American family his ideas, being based on practical experience, will seem convincing.

THE DOCTOR'S DUTY*

Enclosed, dear Doctor, you'll find my check,
This is to pay up my dues "by heck,"
I've scrimped and saved for over a year;
To get it I've gone without food and beer,
I believe it's one's duty to stay in the fold,
I don't wish to shirk, or be left in the cold,
For organized medicine needs everyone's mite,
To keep things lined up and going just right.
We still have the quacks who abound in the land,
Against them we doctors must take a strong stand.
In order to meet conditions today,
Each one of us medics must dig down and pay,
Its the doctor's lot and his sacred right,
To labor for nothing by day and by night,
The poor we have with us, they're always in sight,
It is our duty to treat them and to do it quite right,
But the "chronic deadbeat" is a damnable curse,
I know of nothing this side of hell that is worse,
And this is where we are decidedly weak,
For our rights we should promptly rise up and speak.
But some dear old brother gets weak in the knee,
And treats these "damn scoundrels," minus a fee,
So until such times as we rise up and stand pat,
Our wallets will likely be empty and flat.

*This little poem speaks for itself. The modest perpetrator is one of our members in one of the smaller towns of the State who acts on the belief that we should support our medical societies and all stand together.

"When a drug really possesses the virtues attributed to it, and is an effective remedy for disease, its survival into modern times is quite natural, but the fact that many quite fantastic remedies have been carried on almost to our own days, is definite proof of the slavish copying of the works of one writer to another in a continuous line that originated many centuries ago on the banks of the Nile."—From Magician and Leech—Warren R. Dawson.

"A train of thought may die away without any recognizable external result of any kind. When Archimedes invented his test of specific gravity, he ran into the street and shouted; but in the preceding twelve months he must have done a good deal of thinking that left his muscles passive."—Graham Wallas.

COMMUNICATIONS

HISTORY OF U. OF M. HOSPITAL

To the Editor Journal M. S. M. S.:

In connection with a history of the University Hospital, which I am writing, I am desirous of including a roster of physicians who have served the hospital in any capacity.

Through the columns of your excellent Journal I am appealing to those who have been connected with the Hospital to send me a record of the position or positions held and the dates thereof. Such communications should be addressed to Dr. Reuben Peterson, University Hospital, Ann Arbor, Mich.

Reuben Peterson.

March 26, 1931.

HOW OUR COUNTRY DOCTOR SOLVED THE X-RAY PROBLEM

To the Editor Journal M. S. M. S.:

The enclosed is part of a letter just received from a country practitioner. It tells so graphically how he and his father have solved the problem of X-ray diagnosis, that I hope the idea may be found of value to other rural practitioners. Hence, I suggest that you publish it in an early number of the Journal.

F. B. Tibbals, Chairman
Executive Board Medical Defense.

Editor's note: Dr. Tibbals died suddenly, April 22, 1931.

X-RAY ALWAYS CAPITAL X

Your letter in regard to X-ray and fractures was timely. As you know, we live in a small village, that had no electrical service until recently. We have had some fracture cases that were difficult, as any general practitioner is bound to have. Some of these cases we took to neighboring men with the X-ray equipment. This required time and loss to our practice. I had learned in the Army that the Army portable unit was quite satisfactory. By advertising and correspondence through the A. M. A., we located a Delco engine out in Iowa that a doctor had purchased from the Army. These engines, as you know, were specially devised to develop an alternating current for the Army X-ray unit. Mr. George Brady had helped a Dr. Chittick of Frankfort, Ind., to rebuild an Army X-ray unit into a portable and, as the doctor had no further use for it, we purchased the same. I give you this detail as we were nearly two years finding what we wanted and to tell you that our complete equipment was within $700.00. Let me say that this little outfit paid for itself in more ways than one and that it is of the most satisfying and enjoyable work that a general practitioner has to do. We could do most any kind of bone work, chests and teeth and also get some fine skull fracture pictures. Later, when the power line came through, we purchased a 10-inch gap machine. This last we got second hand at a bargain. The point I wish to make is that if a doctor looks around he can get himself a used equipment that will be reasonable and, with a little practice and instruction, can do his own fracture work and even other work quite well. Of course, we never pose as specialists and we never give X-ray treatments. Such cases we always turn over to some one like Crane of Kalamazoo. I find that people are willing to pay for such service and that in a few years your machine is paid for and, besides, you have had the satisfaction of doing better work right in your own office. Recently we had a bad automobile accident case, with fracture of tibia and fibula one inch below the knee joint and fracture of the skull. As this man had electrical service in his home, we took the portable machine right to his home and left it there for frequent observation of fractures until the man was well on the road to recovery.

Eugene Taylor Brunson, M.D.,
Ganges, Michigan.

March 19, 1931.

Dr. F. C. Warnshuis, Secretary,
Michigan State Medical Society,
1508 Grand Rapids National Bank Bldg.,
Grand Rapids, Michigan.

Dear Doctor Warnshuis:

In re: *Hoxsey*

Many thanks for the facts detailed in your good letter of March 17. I have been kept pretty well informed regarding the Hoxsey situation in Detroit through Mr. Burns, and I have sent both Mr. Burns and Mr. Brewer of the Detroit *News,* also Mr. Gilmore of the Detroit *News,* as well as Dr. Dutchess of the Detroit Department of Health, such "dope" as I could on Hoxsey.

I get the impression from what I have heard that Mr. Moross is probably pushing the Hoxsey fake not so much because he believes in Hoxsey or his remedy, as because he wants to fill up his apartment building, which, I understand, has been pretty much of a "white elephant" on his hands for some time.

I am not sure whether I can trace back, far enough, the death certificate of Hoxsey's father. The file on this faker is so voluminous by this time and has extended over so many years, that it is a tremendous job to dig out some of the earlier details. I will, however, do my best.

You don't know what a warm glow of satisfaction I get from the active work that is being done in Michigan since you have been on the Michigan State Board of Registration in Medicine!

Cordially yours,
(Signed) Arthur J. Cramp.

Detroit, Mich., April 8, 1931.

Dear Dr. Warnshuis:

The Council of the Wayne County Medical Society, at its meeting of April 6, 1931, placed on its minutes a vote of thanks to you for your very active and arduous work in your efforts to eliminate from Detroit one Harry Hoxsey and his so-called "cancer clinic."

The Council realizes that your labors in this regard have meant the expenditure of much valuable time and real hard effort. Please know that it appreciates your activities.

Please call upon our Executive Office whenever it may be of any service to you.

Very cordially and sincerely,
Wayne County Medical Society,
J. M. Robb, M.D., *President.*

St. Joseph, Mo., March 30, 1931.

To the Editor:

On February 23, this year, a solicitor victimized a number of physicians in St. Joseph. His plan was to solicit subscriptions to Harpers and other magazines and to offer sets of books as premiums. The subscription blank called for the payment of $9.70 in ninety days. He was supplied with blanks, samples of binding and everything to indicate that he was a bona fide magazine salesman.

After he had secured the signature on the subscription blank, he explained in an indifferent manner that if the subscriber cared to pay cash, or by check, there was a discount of $1.00, and the check could be made payable to "Harper

Brothers Publishing Co.," the name printed on the subscription blank. The doctors "fell for it" and the next day he cashed the checks at a local bank and departed. He used the name T. T. McLean while here but has also used the name Leroy Dale.

Correspondence with the National Publishers Association, 15 West 37th Street, New York, indicates that this person has been defrauding physicians in the Middle West for several months.

E. J. Goodwin, M.D.

GENERAL NEWS AND ANNOUNCEMENTS

It is anticipated that the legislature will adjourn about May 15.

Dr. J. A. Walsh, Escanaba, succeeds Dr. W. A. Lemire, deceased, as a member of the Board of Registration.

Dr. and Mrs. O. W. Pickard left April 11 on the S. S. Roma for a three months' Clinic tour of Europe and the British Isles.

Dr. Harry E. Knight, Detroit, left March 16, for a motor trip through the south to Miami Beach and Cuba, where he got an early start on his golf.

The Osteopathic Bill, providing for unrestricted rights to practice medicine and surgery, was introduced April 6 by Senator Woodruff of Wayne County.

Dr. Wynand Pyle of Detroit has temporarily left the ranks of the medical profession in Detroit. He has been appointed ship surgeon on one of the steamers on the Holland-American Line plying between New York and Amsterdam.

The State Board of Registration will conduct joint examinations in Ann Arbor and Detroit, June 15, 16 and 17. Those desiring to take the examinations should file their credentials and applications before June 1. Address the Board, 1010 Maccabee Building, Detroit, Michigan.

At the annual meeting of the American College of Physicians which was held in Baltimore the last week in March, Dr. A. S. Warthin of Ann Arbor was elected first vice-president for the ensuing year. Dr. Charles G. Jennings of Detroit was elected second vice-president and Dr. James D. Bruce of Ann Arbor was elected to the board of governors.

The A. M. A. meets in Philadelphia the week of June 8. Railroad fares are at a one and one-half rate—certificate plan. Be sure to ask the agent for a certificate when purchasing your ticket. Michigan will be represented by Drs. Brook, Moll, Gorsline, Luce and Cassidy in the House of Delegates. Dr. B. R. Shurly will be a delegate from the Section on Ophthalmology.

Number IV, Volume I, of the Journal of the Detroit College of Medicine and Surgery contains a very serviceable article by the Editor, Dr. James E. Davis. The title is "Useful Etymological Data," consisting of twenty-three pages of Latin and Greek prefixes and of Latin and Greek words from which a large number of technical terms in the medical sciences are derived.

"The Michigan State Medical Journal is the best in the United States. It is the only method by which individual doctors can keep in touch with the doings of the State Society. It costs $1,000 a year to put the wrapper on it, etc."—Genesee County Medical Bulletin. We do not want to start an argument but will be gratified if we have given our members satisfaction. And remember, doctor, it costs nothing to tear the wrapper off.

The Grace Hospital, Detroit, has opened a free clinic for speech correction for the needy poor. Physicians are invited to refer patients suffering from stammering and other speech defects. Professor John H. Muyskens of the Department of Biolinguistics of the University of Michigan will act as speech consultant. The clinic will be under the supervision of the Department of Neurology of the Hospital.

The Flint Journal recently published a translation by Dr. H. E. Randall, former President of the Michigan State Medical Society, from a work by de Tocqueville, a transcription of a trip made from Detroit to Flint 100 years ago. The translation by Dr. Randall is a very interesting account of the conditions which prevailed in the wilderness of a century ago.

Dr. W. J. Cassidy of Detroit extends to the Profession of the State an invitation to an all-day General Surgical Clinic at St. Mary's Hospital on May 15, 1931. Histories and laboratory data on the interesting cases will be mimeographed so that those attending will be furnished with copies. The recent advances in the technical fields will be demonstrated and evaluated. Movie-talkie films upon various subjects will also form a prominent part of the program. The Clinic will start sharp at eight.

Three professors at the University of Michigan were given special honor by the house and senate at Lansing on April 14 in recognition of work that they had done that is world-wide in its significance. The men honored are Dr. Frederick G. Novy, chairman of the executive committee of the department of medicine and surgery of the University of Michigan; Dr. Moses Gomberg, professor of organic chemistry at the University; and Dr. Reuben L. Kahn, director of the laboratory of the University Hospital. In connection with this observation Governor Brucker made the following statement: "It is altogether fitting and proper that the two branches of the legislature should assemble in joint convention to give recognition to these outstanding scientists, to hear a brief story of their work and to confer upon them suitable recognition for their distinguished service to humanity."

The New York State Journal of Medicine for April contains the following reference to the Journal of the Michigan State Medical Society and more particularly to the Conference of County Secretaries which was reported in full in the March number: "The March issue of the Journal of the Michigan State Medical Society," says our contemporary, "is packed full of interest in all its 132 pages of reading matter. Of special value are the minutes

of the meeting of the Council covering 19 pages and a 32-page stenographic report of the Annual Conference of County Secretaries." Then continues our New York contemporary after giving a list of the subjects of papers at the County Secretaries meeting at Ann Arbor, "These topics were presented in the form of papers whose importance would have justified their being listed in the index; but since they are not so listed, they will be overlooked by many readers." We quite agree with the editor of the New York State Journal of Medicine. These papers should have been given a prominent place in the table of contents. The Journal then goes on to abstract the said papers in the section devoted to "Our Neighbors," devoting pages 438 to 452 to this purpose. We wish here to express our gratitude to the editor of the New York State Journal of Medicine for his recognition of this Journal.

MEDICAL HISTORY OF MICHIGAN

The Michigan Library Bulletin for February, 1931, contains the following review of the Medical History of Michigan, edited and largely written by Dr. C. B. Burr.

Michigan State Medical Society. Doctor C. B. Burr, editor and compiler. Medical History of Michigan. Bruce Publishing Company. 1930.

A voluminous piece of work, which has attracted much attention both because of the importance of the subject matter and the noteworthy success of the enterprise, has just been finished, culminating the work of many years and many persons. "The Medical History of Michigan," sponsored by the Michigan State Medical Society and compiled and written for the most part by Doctor C. B. Burr of Flint, has just come from the press, the first volume appearing in the early fall and the second and last volume within the past few weeks. Doctor Burr and his co-workers have succeeded in bringing together in a marvelously interesting form a tremendous amount of valuable historical material. The publication has been greeted with approval and enthusiasm by medical authorities, medical publications, and historians.

The chapter headings tell something of the wide field covered by the authors of these two volumes. The chapter headings of the first volume are:

I. The Doctor Mainly From the Layman's Viewpoint; II. The American Indian, his Mentality, Manners, Morals, and Medicine; III. Physicians with the Early Explorers and Adventurers; IV. Eighteenth Century Michigan Physicians; V. Experiences of the Pioneer in which the Doctor Bulks Large; VI. William Beaumont, M.D.—Michigan's Significant Contribution to the World's Medical History, a symposium; VII. Pioneer Physicians—Types and Anecdotes; VIII. Sundry Anecdotes and Brief Biographies of Pioneer and Early Michigan Physicians; IX. Medical Education in Michigan; X. A Great Medical Teacher, Surgeon, Soldier—Doctor Theodore A. McGraw; XI. Some Medical Men and Methods of Yester-year, Contact and Close-ups; XII. Medical Journalism; XIII. Diagnostic Aids and Therapy; XIV. Prevailing Diseases and Epidemics; XV. Public Health Work in Michigan.

Of the chapters in the first volume all were written by Doctor Burr himself, except Chapter IX, written by Doctor J. H. Dempster, Chapter X, written by Doctor Frederick A. Coller, Chapter XII, by Doctor Walter H. Sawyer, Chapter XV, by Doctor Guy L. Kiefer, and Chapter VI, in which Doctor Burr had the coöperation of Doctors J. H. Dempster and Burton R. Corbus.

Volume II was likewise written largely by Doctor Burr, though many valuable chapters were contributed by other physicians of high standing. The chapter headings in the second volume are:

I. Controversies; II. Malpractice, Litigation, and the Physician as a Witness; III. Medical Defense; IV. A Medical Miscellany and Medley; V. Extra-professional Activities; VI. Women Physicians; VII. Michigan State Medical Society; VIII. Some of the Active Medical Societies—Then and Now—Their Props and Promoters; IX. Upper Peninsula Medical Men and Women—a symposium; X. The History of Hospitals and Nursing in Michigan; XI. State Psychiatric Hospitals and Medical Establishments for the Mentally Handicapped or Retarded; XII. The Military Service of Michigan Physicians—a symposium.

Chapter III was written by Doctor Frank Burr Tibbals, Chapter IX was written by Doctors William K. West and Carl F. Moll in coöperation with Doctor Burr, Chapter X by Doctor Richard R. Smith, Chapter XI by Doctor W. J. Kay in coöperation with Doctor Burr, and the closing symposium, in Chapter XII, was the work of Doctors Andrew P. Biddle, Wilfred Haughey and Doctor Burr.

Dr. Frank B. Tibbals, Chairman of the Medical Defense Committee of the Michigan State Medical Society, died very suddenly on the night of April 22 of heart disease. A biography and editorial tribute will appear in the June number of this Journal.

Dr. B. R. Shurly of Detroit, Chairman of the Board of Education, has announced himself as a candidate for the Federal House of Representatives.

The opening of the new Mercy Hospital, Muskegon, Michigan, took place April 23. A large number of the medical profession and citizens of Muskegon were present when addresses were given by Dr. Garber on "The Hospitals of Muskegon County"; Dr. George Le Fevre spoke on "The Relation of Medical Progress to the Hospital," and Dr. Angus McLean of Detroit gave an address on the subject of "General Surgery, Ancient and Modern." Dr. McLean also discussed medical and hospital economics.

SOCIETY ACTIVITY

OBSERVATIONS

While attending one of the luncheons of a certain county society we encountered the following experience at the cashier's desk while paying our check. There was the usual assortment of cigarettes, cigars, gum and mints. Prominent, however, was a display of "Snedul's Throat Lozenges" and "Twin Brothers Cough Drops." Was it to laugh? Yes, and a good chance for razzing. The cafe is owned by the doctors but an attendant's sales enthusiasm evidently was based on the conclusions that doctors do not prescribe for themselves.

The American Medical Association meets in Philadelphia the week of June 8. Send in for your hotel reservations now.

Your County Secretary will accept your order for Michigan's Medical History. Place your order, it will be filled promptly. A set should be in your library.

Once again attention is directed to our advertising pages. Your patronage is solicited. These business firms make your Journal possible. They merit your support. The plea is made that you respond to the invitations extended to you by our advertisers.

Delegates Moll and Brook will introduce two important resolutions in the A. M. A. House of Delegates. One provides for a national commission that will be directed to set forth the qualifications that an individual must present in order to be recognized as a "specialist" in the fields of medicine and surgery. The other provides for a special committee to take up the question of remuneration for filling out insurance blanks.

REVOCATION OF LICENSES

In this issue will be found the minutes of the special meeting of the State Board of Registration in Medicine held on March 30, 1931.

The Board held one important hearing that terminated with the revocation of the license of Dr. Van Hyning. The charges were: "The lending of his name and having professional connection with an illegal practitioner, one H. M. Hoxsey."

The Bureau of Investigation of the American Medical Assn. reports from its large file that H. M. Hoxsey was sentenced in two or three courts in Illinois. That he then moved to Iowa and that within a few months the courts of Iowa entered a permanent injunction against him. The reports state that all these actions were against Hoxsey for conducting an alleged cancer cure clinic. That he was also at one time associated with a certain Baker whose license was revoked in Iowa.

Prevented from conducting cancer clinics in Illinois and Iowa, Hoxsey came to Detroit. He was able to induce certain Detroit citizens to finance his project and furnish him with a building for his Cancer Clinic. The clinic was opened on March 8. Since opening, its name has been changed to the Detroit Cancer Clinic. Various measures were employed, including the radio, announcing the so-called clinic and the curative virtues of the Hoxsey Cancer Cure. Dr. Van Hyning was employed or secured to serve in this clinic.

Complaint was filed by the Wayne County Medical Society and the Detroit Department of Health. Through the work of Major Roehl, investigator, evidence was secured. On March 9 complaint was filed with the Wayne County prosecutor. Hoxsey was called in and the prosecutor gave him one week to cease operations and leave Detroit. Dr. Van Hyning was summoned and warned that a continuance of his association would lead to charges citing him for a revocation of his license.

On March 16 Hoxsey was arrested. He had a hearing on the twenty-fifth and was bound over for trial. Dr. Van Hyning was cited for a hearing on March 30 for revocation of his license.

The hearing consumed about five hours. Four attorneys represented the defendant. It was evident that a record was being made to carry the case to the Supreme Court. The authority and powers of the Board were frequently challenged. The evidence was clear and undisputed. In fact, it was frequently admitted that Dr. Van Hyning was associated with Hoxsey. At the conclusion of the hearing the Board revoked Dr. Van Hyning's license.

The case will undoubtedly be appealed. This experience again indicates the imperative necessity of enactment of the amendments to the Medical Practice Act so that attorneys cannot take into court every action that the Board records.

It may be added that through actions instituted radio privileges have been terminated. Newspaper publicity and exposure has been obtained. Hoxsey's duration in Michigan will apparently be short. Three weeks witnessed his arrival and exposure. It is difficult for illegal practitioners to gain a foothold in Michigan.

SELF-APPRAISAL

President Ross, in the *New York State Journal of Medicine,* makes the following pertinent observation:

In November, 1930, at the annual meeting of the Secretaries of the Constituent State Medical Associations, the President of the New York State Society said in a paper on "Public Relations":

"Organized medicine can never overcome its troubles without the aid of some greater degree of self-appraisal as to whether it is meeting all of its obligations of public service. If it does not meet these obligations, some other agency will do so, just as has been done in other countries. This will quite likely be the action of the state and may not be to the satisfaction of the profession. The medical profession has two ways open to it. One is to fight public opinion and to retreat as slowly as possible. The other is to accept the practical philosophy of self-appraisal. If the result of such self-examination warrants it, let organized medicine make proposals to meet the needs of public health organization for its administration and proposal of how to provide adequate medical care when sickness comes. This can be approached by a study of relationships and a willingness to coöperate with other agencies, under the expert guidance of the profession of medicine. Are we willing to undertake the responsibility of such a study? Self-appraisal of our own organization and proposals from our own organization to meet the great problems of health and sickness service will put the profession of medicine in the position that it should be in and in the position that the public expects it to occupy."

Is our house in order? Would it not be timely to take invoice and determine whether or not we are delivering the service that the people demand and expect?

THE TREND OF MEDICINE

How many of our members have read Dr. Sinai's paper on this subject, read at the County Secretaries' Conference and published in the March issue? If you failed to do so you have passed over one of the best discussions on the subject. We confess not only to having heard the speaker deliver his address on two occasions but also to having read and quoted it a dozen times.

Just ponder on these extracts:

"A bird's-eye view of our whole system of medical care brings out the striking point that almost a million and a half individuals derive their livelihoods and, let us hope, their satisfaction in work, from supplying the various medical services. We would expect to find, when we come closer in our view of the system, some cohesion between the members of this great group, some unity of thought, some definiteness of objective, and some likeness in the method of approaching the objective. However, a closer view reveals that almost the opposite of these expectations exists.

"We find that the great group is broken into smaller groups, and that these are set off from each other in what amounts to almost water-tight compartments. In one compartment we find the 145,000 physicians; in another compartment, the 65,000 dentists; and so it goes—compartment by compartment. Not only do we find little contact between the compartments, but we also see evidence of antagonism, animosity, and friction between the groups."

And as a plea for wider interest and unity of action, Dr. Sinai concludes as follows:

"The part the professions are to play in the future trend of medical care is obvious. If there was ever a need for professional groups to pause and objectively study movements in medical care, the need is now pressing. If there was ever a need for forgetting petty animosities and energy-consuming antagonisms, within the professions and between professions, the need is here. Changes that take place may be directed by the professions or there is danger that they will be directed for the professions."

Again do we urge that you turn to the March issue and read the entire address.

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE

A special meeting of the Michigan State Board of Registration in Medicine was held at 1124 Maccabee Building, Detroit, Michigan, at 4 P. M., March 30, 1931.

Present: Drs. McLaughlin, Kelly, McIntyre, Brook, Tew, Teifer, Yeomans, Walch.

Absent: Drs. Marshall, English.

Dr. Nelson McLaughlin, President, in the Chair.

The meeting was called to order by the Chairman.

Dr. J. J. Walch, Escanaba, Michigan, presented his commission, by Governor Brucker, as a member of the Board of Registration in Medicine.

READING OF MINUTES BY THE SECRETARY

Dr. McIntyre suggested that two typographical errors be corrected.

No further objection being made, the Chairman declared the minutes of the meeting of November 12, 1930, adopted as read.

Re: Dr. William A. Lemire.

The Secretary presented the following resolution:

"On March 2, 1931, William A. Lemire, M.D., of Escanaba, Michigan, while engaged in his professional labors, received the final summons and, answering, passed on to that unknown beyond.

"We, the members of the State Board of Registration in Medicine, record tribute to his life, his professional services and his contributions of time and labor to the work of this Board. In like spirit do we attest that his departure deprives the profession and the state, of the administration, counsel and inspiration of one whose life was replete with deeds of love and sacrifice for his fellowmen.

"Therefore, Be It Resolved: That we extend to his helpmate and his children our sincere sympathy in their bereavement and assure them that we do mourn with them in their loss of husband and father.

"And Be It Further Resolved, That a copy of these resolutions be spread upon the official records of this Board."

By Dr. McIntyre, seconded by Dr. Yeomans:

Resolved, that this resolution be adopted, spread upon the minutes of the Board, and a copy sent to the family of Dr. Lemire.

Yeas, 8; Nays, 0.

READING OF SECRETARY'S REPORT

To the Board of Registration in Medicine.

Gentlemen:

Your Secretary respectfully calls to the Board's attention the following administrative details and requests instructions thereon.

1. Financial: Appended hereto is a copy of a statement made to the Governor and filed with the Committee on Ways and Means of the Senate and the House of Representatives. Recommendation is made that you designate certain members to go to Lansing and appear before these committees to plead for the allowance of the Board's budget.

On February 1st I was advised that the Board's budget was overdrawn $1,100.00 and that no funds would be available until July 1st. Attached is a copy of my communication to the State Administrative Board. I also went to Lansing and interviewed the Governor. On February 18th, 1931, we were advised that a special appropriation of $1,800.00 had been made. On March 1st the accountant's report showed that the $1,100.00 overdraft had been charged against this appropriation, leaving us then a balance of only $700.00. This will be expended in April. To carry us through June, the examinations, etc., at least $2,500.00 is required. Your Secretary recommends that this same committee take steps to secure these necessary funds.

2. Examinations: Our June examinations conflict with the A. M. A. meeting. The suggestion has been made that we hold but one combined examination in Ann Arbor the week of June 15th. Your instructions are requested.

3. Industrial Practice: In February, the Wayne County Medical Society filed a complaint relative to the work of nurses and first aid men in industrial plants. Following an investigation, a communication was addressed to manufacturers defining first aid and the practice of medicine. Conferences are now in progress seeking to correct these practice infractions.

4. Complaints and Investigations: Each week brings several complaints against licentiates or illegal practitioners. In each instance an investigation is made, an interview is obtained, followed by adjustment, probation, reference to federal or local prosecutors, or citation to appear before the Board. This policy is beginning to be productive of beneficial results. Concurrent publicity has caused a realization that this Board is concerning itself with the conduct of licentiates. Increasing inquiries are being received as to the legal rights ere the inquiring individual undertakes new activities. Your Secretary feels this to be a wholesome influence. It is hoped that funds may be available to obtain full time investigators.

5. Legal Opinions: Two inquiries have been received requesting important opinions:

(a) Can a drugless practitioner sign a death certificate?

(b) Can a group of doctors, organized as a company or a corporation, practice as a company or a corporation?

These have been referred to the Attorney General. His opinions have not yet been received.

6. Amendments to the Law: Pursuant to the recommendation of the Attorney General, and the action of the Board, your Secretary caused the introduction of these amendments in the Legislature. The bill is now known as House Bill 357. Previous to its introduction, the executive committee of the council of the State Society issued a statement and a copy of the bill to each county society. As a result but three county societies offered objection to annual registration. It is purposed to press the early passage of these amendments.

7. Illegal Practitioners: On March 16, joining with the Detroit Department of Health and the Wayne County Medical Society, a warrant was secured for one "Hoxsey" who formerly conducted a cancer treatment in Illinois and Iowa. An Iowa injunction terminated his Iowa activities and hence his migration to Michigan. The case is now in court.

Among cases pending are:

Dr. Chas. J. Beaver, warrant issued January 29, 1931, by Detroit Police Department, for manslaughter. Whereabouts unknown at present time. Cited for hearing at June meeting on old abortion charge, pending his apprehension on the new charge.

Dr. Jos. Scheidler, Flint, arraigned on manslaughter case at Flint, January 14, 1931, held for trial.

8. Conclusions: Your Secretary has spent one and two days each week in Detroit. I have been in weekly conference with the President and have diligently sought to discharge the duties of the office and execute the instructions of the Board. I am grateful for your kindly support.

Respectfully submitted,

F. C. Warnshuis, *Secretary.*

By Dr. McIntyre, seconded by Dr. Kelly:

Resolved, that the Board examinations

be held concurrently, at Ann Arbor and Detroit, on June 15, 16 and 17, and the meeting of the Board, business session, be held at Detroit, on the evening of June 17, 1931.

Yeas, 8; Nays, 0.

By Dr. McIntyre; seconded by Dr. Yeomans:

RESOLVED, That the Secretary's report be adopted, and that the President appoint a committee to call upon the necessary committees of the Legislature.

Yeas, 7; Nays, 0.

Re: Legal advice and assistance.

By Dr. Teifer, seconded by Dr. McIntyre:

RESOLVED, that the Secretary be instructed to communicate with the Attorney General suggesting that one person be assigned to medico-legal matters, and that this person be permitted to attend all Board meetings for the proper guidance of the Board on legal questions.

Yeas, 8; Nays, 0.

HEARINGS

Re: Dr. John Brunning, Rose City, Michigan.

Dr. Brunning appeared personally before the Board, with the request that he be licensed in Michigan, upon indorsement of his Indiana credentials. He stated that he was a graduate of the Eclectic Medical College of Indianapolis, Ind., on April 15, 1908, and submitted his diploma. Also stated that he was registered in Indiana the same year.

Dr. Brunning stated that he had filed his credentials with his lawyer, in 1908, who, he supposed, had taken care of the necessary details. It was not until many years after this man's death that Dr. Brunning learned that the application had not been filed and he was not registered in the state. He continued in his practice without interruption until February of this year, when the prosecuting attorney informed him that he must cease practice until he had complied with the law.

By Dr. Kelly, seconded by Dr. Teifer:

RESOLVED, That Dr. Brunning be instructed that his application should be presented in the proper form to this Board, that he cease practice without registration, and that if his qualifications fulfill the requirements demanded at the time of his graduation, that he be admitted to licensure in this state.

Yeas, 7; Nays, 0.

Dr. Frederick J. Champney, 2810 Book Building, Detroit, Mich.

Age: 64.

Graduate: Detroit College of Medicine and Surgery, 1893.

Licensed in Michigan, Sept. 7, 1901. Located in Perrysburg, Ohio, since that time and listed in A. M. A. Directory as "Not in practice." He is now a representative of "Theronoid," and gives radio talks on its merits.

The Better Business Bureau, of Detroit, reports that they have many complaints on file in their office regarding this article.

Notified to appear before the Board.

Dr. Champney and his attorney, Jay F. McMullen, appeared in person and requested that itemized charges be filed with them, and asking a continuance of the case until the June meeting.

By Dr. Yeomans, seconded by Dr. Teifer:

RESOLVED, That Dr. Champney's request be granted.

Yeas, 8; Nays, 0.

Dr. Albert H. Eber, c/o Frank B. Leland After Cure Farm, Ypsilanti, Mich.

Age: 54.

Graduate: Detroit College of Medicine, 1897.

Medical officer, U. S. Army for over twenty-five years; retired Dec. 31, 1927. Requests a special examination in order that he may be registered in his position as superintendent of the Leland Sanatorium.

Dr. Eber appeared personally, but was advised to withdraw his request, complete his original Illinois registration and apply for licensure in this state through indorsement of his Illinois credentials.

Re: Dr. R. E. D. Hawley, St. Clair Shores, Mich.

Age: 55.

Graduate: University of Michigan Medical School, 1920. A.B., University of Michigan, 1909.

Internship: Lynn Hospital, Lynn, Mass.

Registered in Michigan, July 5, 1920, after Board examination.

The American Medical Association reports that his Massachusetts license was revoked July 21, 1927.

Dr. Hawley appeared in person before the Board, explained the conditions which caused the suspension of his Massachusetts license and requested leniency by the Board.

By Dr. Kelly, seconded by Dr. Teifer:

RESOLVED, that this complaint be laid on the table.

Yeas, 7; Nays, 0. Carried.

MISCELLANEOUS

Re: Maybury Sanitarium, Northville, Mich.
Pontiac State Hospital, Pontiac, Mich.

By Dr. McIntyre, seconded by Dr. Kelly:

RESOLVED, that these institutions be approved by the Board for two years' internships in psychiatry and tuberculosis.

Yeas, 8; Nays, 0. Carried.

Re: Amendments to Medical Practice Act (H. B. 357)

By Dr. McIntyre, seconded by Dr. Kelly:

RESOLVED, that the Secretary direct a communication to the Legislature indorsing the proposed amendments to the Medical Practice Act.

Yeas, 8 ; Nays, 0. Motion carried.

Upon motion, a recess was taken.

Meeting Called to Order at 7:00 P. M.

Re: Dr. Chauncey L. Barber, 500 W. St. Joseph St., Lansing, Mich.

Age: 73.

Graduate: Chicago College of Physicians and Surgeons, in 1884.

Registered in Michigan, March 22, 1900, under the present Act.

Certified copy of conviction in Justice's Court, Lansing, Michigan, dated January 7, 1931, on charge of "Failure to notify a coroner in a death caused by abortion." Sentence, fine $94.50 and costs $5.50.

A letter was read from Mrs. Barber, stating that due to the critical illness of Dr. Barber he would be unable to appear and requesting postponement of the Board's action.

By Dr. McIntyre, seconded by Dr. Kelly:

RESOLVED, that action on this matter be postponed until the June meeting of the Board.

Yeas, 8; Nays, 0. Motion carried.

Re: Dr. Wm. Charlton Edmison, Mackinac Island, Michigan.

Age: 47.

Graduate: Detroit College of Medicine, 1913.

Licensed in Michigan, after Board examination, June 19, 1913.

Certified copy of his conviction in U. S. District Court, Grand Rapids, Mich., on Nov. 1, 1929, on five counts, violation of Harrison Narcotic Act, and sentenced to two years in Leavenworth Penitentiary.

By Dr. Kelly, seconded by Dr. Teifer:

RESOLVED, that Dr. Edmison be cited to appear at the June meeting of the Board to show cause why his license should not be revoked.

Yeas, 7; Nays, 0.

Re: Dr. Charles Ray Parker, 4612 N. Lincoln St., Chicago, Ill.

Age: 51.

Graduate: Chicago College of Medicine and Surgery, 1913.

Licensed in Illinois, Nov. 14, 1913, after Board examination.

Asks indorsement of his Illinois credentials.

Submits Illinois Examiners Certificate No. 212, as the equivalent of the required high school preliminary requirement. The American Medical Association states "Information on file indicates that in 1911 he was fined $100 and costs for practicing medicine without a license in Illinois."

School of graduation classed as "B," 1907 to 1917.

By Dr. Brook, seconded by Dr. Teifer:

RESOLVED, that this request be denied. Yeas, 8; Nays, 0. Carried.

Re: Dr. Homer Bailey Van Hyning, c/o LaFrance Clinic, 3447 Woodward Ave., Detroit, Mich.

The following citation to appear was served by

L. W. Frick, Deputy Sheriff, Wayne County, upon Dr. Homer Bailey Van Hyning, at 3447 Woodward Ave., Detroit, on March 24, 1931:

"To:
Dr. Homer Bailey Van Hyning,
c/o LaFrance Clinic,
3447 Woodward Ave.,
Detroit, Michigan.
Sir:

Substantial complaint having been filed against you, please take notice that you are hereby cited to appear before the Board of Registration in Medicine, on Monday, March 30, 1931, at 7:30 P. M., at a meeting to be held in the rooms of the Wayne County Medical Society, 1124 Maccabee Building, Detroit, Michigan, to then and there show cause, if any there be, why your certificate of registration or registration being numbered 7689 and issued to you under date of November 22, 1913, shall not be suspended or revoked, pursuant to the provisions of Act 237, Public Acts of 1899 as amended, under which your registration was obtained.

Charges:

Violation of Section III, p. 6, of Act 237, Public Acts of 1899 as amended, 'grossly unprofessional and dishonest conduct' as defined in this section, and in particular with having professional connection with and lending your name to an unlicensed individual in the person of one Harry M. Hoxsey, who on March 8, 1931, examined and diagnosed an alleged physical condition in one Otto F. Fischel. Further that said Harry M. Hoxsey is not licensed to practice medicine in the State of Michigan.

By order of the State Board of Registration in Medicine of the State of Michigan.

Michigan State Board of Registration in Medicine.
By F. C. Warnshuis, *Secretary* (Signed)."

Upon call, Dr. Van Hyning appeared in person and by attorney, Mr. O. L. Smith.

The Board proceeded with an open public hearing.

Mr. Smith presented a written objection, denying the Board's right to proceed. Overruled by the President.

Witnesses in support of the complaint appeared as follows: Miss S. Brown, Major John F. Roehl, Mr. Otto Fischel, Dr. Charles L. Tennant. Unlimited opportunity for cross-examination was accorded by Dr. Van Hyning's counsel.

Re: Dr. Van Hyning.

Defendant's counsel presented several witnesses, as shown by the record.

Defendant was asked if he or his counsel had any further testimony or evidence to introduce.

Defendant rested.

The Board went into executive session and after a full discussion and weighing of the evidence, on motion by Dr. McIntyre, and supported by Dr. Yeomans, that this Board determines that Dr. Homer Bailey Van Hyning has been guilty of unprofessional and dishonest conduct in that he did have professional connection with an illegal practitioner of medicine and lent his name to an illegal practitioner of medicine contrary to the Sixth subdivision of Section 3, of Act 237, Public Acts of 1899 as amended, and that his license granted under such Act, as evidenced by certificate of registration, or license, No. 7689, issued November 22, 1913, be and the same is hereby permanently revoked, effective at noon of the 31st day of March, A. D. 1931.

Yeas 8; Nays, 0. Motion carried.

(Copy of notice sent Dr. Van Hyning)

"To:
Dr. Homer Bailey Van Hyning,
c/o LaFrance Clinic,
3447 Woodward Ave.,
Detroit, Michigan.
Sir:

This is to officially advise you that after due deliberation and review of tbe evidence recorded during your hearing on March 30, 1931, the Board of Registration in Medicine of the State of Michigan, by unanimous vote of the members present recorded the following action:

That your certificate of registration, or license, being numbered 7689, authorizing you to practice medicine and surgery in this State, and issued to you by this Board under date of November 22, 1913, be revoked, and that said revocation become effective at noon of March 31, 1931.

By direction of the Board of Registration in Medicine of the State of Michigan.

(Signed) F. C. Warnshuis, *Secretary*."

Re: Dr. Herbert Thurtell, 99 W. Main St., Benton Harbor, Mich.

Age: 68.

Graduate: University of Michigan, 1892.

Registered in Michigan through reciprocity with Wisconsin, August 10, 1909.

Certified copy of his conviction on the charge of performing an abortion, dated October 13, 1930, in the Circuit Court, St. Joseph, Michigan, filed with the Secretary.

Dr. Thurtell, accompanied by his attorney, Mr. Charles W. Gore, of St. Joseph, appeared before the Board.

Mr. Gore requested that leniency be shown Dr. Thurtell, inasmuch as he felt he was responsible for Dr. Thurtell having pleaded guilty to tbe charge—unaware at that time that he was rendering Dr. Thurtell liable to the loss of his license.

By Dr. Brook, seconded by Dr. Kelly:

Resolved, that the charges against Dr. Thurtell be dismissed.

Yeas, 8; Nays, 0. Motion carried.

Re: Mr. Frank B. Hursley, drugless practitioner, 7338 Woodward Ave., Detroit, Mich.

Age: 52.

Registered by this Board, after examination under Section 3, Subdivision 3rd (drugless practice clause), on September 2, 1924.

The following citation to appear was served on Mr. Hursley, personally, by Major John F. Roehl, March 23, 1931:

"To: March 23, 1931.
Mr. Frank B. Hursley,
7338 Woodward Ave.,
Detroit, Michigan.
Sir:

Substantial complaint having been filed against you, please take notice that you are hereby cited to appear before the Board of Registration in Medicine, on Monday, March 30, 1931, at 5 P. M., at a Board meeting to be held in the rooms of the Wayne County Medical Society, 1124 Maccabee Bldg., Detroit, to then and there show cause, if any there be, why your certificate of registration, being numbered 163, and issued to you by this Board under date of September 2, 1924, pursuant to the provisions of Act 237, Public Acts of 1899 as amended (Section 3, Subdivision 3rd), should not be suspended or revoked.

Charges:

Violation of the Act under which you hold your license in that you misrepresented your profession and under this license opened an institution wherein you engaged in certain questionable practices.

By order of the State Board of Registration in Medicine.

(Signed) F. C. Warnshuis, *Secretary*."

Upon call, Mr. Hursley appeared in person and by attorney, Mr. M. M. Marston.

The Board proceeded with an open public hearing.

Major John F. Roehl, Special Investigator of the Detroit Department of Health, presented the evidence against Mr. Hursley, according to the record, and was cross-examined by Mr. Marston.

Mr. Hursley's testimony was then taken.

Defendant was then asked if he or his counsel had any further testimony or evidence to introduce. Defendant rested.

The Board then went into executive session and after a full discussion and weighing of the evidence,

on motion of Dr. McIntyre, and supported by Dr. Teifer, that this Board determines that Mr. Frank B. Hursley has been guilty of unprofessional and dishonest conduct contrary to Section 3, Subdivision Sixth of Act 237, Public Acts of 1899 as amended, and that his license being numbered 163 and issued under date of September 2, 1924, be and the same is hereby permanently revoked, effective at noon of the 31st day of March, A. D. 1931.

Yeas, 8; Nays, 0. Motion carried.

(Copy of notice sent Mr. Hursley)

"To: March 31, 1931.

Mr. Frank B. Hursley,
7338 Woodward Ave.
Detroit, Michigan.

Sir:

This is to officially advise you that, after due deliberation and review of the evidence recorded during your hearing on March 30, 1931, the Board of Registration in Medicine of the State of Michigan, by unanimous vote of the members present recorded the following action:

That your certificate of registration, or license, being numbered 163, and issued to you by this Board under date of September 2, 1924, under Section 3, Subdivision 3, of Act 237, Public Acts of 1899 as amended, be revoked, and that said revocation become effective at noon of March 31, 1931.

By direction of the Board of Registration in Medicine of the State of Michigan.

(Signed) F. C. Warnshuis, *Secretary.*"

By Dr. McLaughlin, seconded by Dr. Teifer:

Resolved, that the expenses of the Board be approved, incurred while attending this Board meeting.

Yeas, 8; Nays, 0. Motion carried.

Upon motion the meeting adjourned.

Nelson McLaughlin, *President.*
F. C. Warnshuis, *Secretary.*

MINUTES OF THE APRIL MEETING OF THE EXECUTIVE COMMITTEE

The April meeting of the Executive Committee was held in Grand Rapids on April 15, 1931, with the following members present:

Chairman—B. R. Corbus.
C. E. Boys.
J. D. Bruce.
Henry Cook.
Geo. L. Le Fevre.
President—Ray C. Stone.
President-Elect—C. F. Moll.
Secretary—F. C. Warnshuis.

1. The Secretary presented a report of the meeting of the section officers and the outline for the scientific program for our Annual Session. Upon motion of Bruce–Boys, this report and the outlined program was approved and the section officers instructed to execute it.

2. Upon motion of Le Fevre–Cook, the Secretary was authorized to purchase six new lanterns for our scientific sections.

3. Upon motion of Le Fevre–Cook, the Secretary was authorized to advertise for bids for our present lanterns and that they be sold in the order in which application was made.

4. Upon recommendation of President Stone and upon motion made Bruce–Le Fevre, President Stone was authorized and instructed to arrange for personal interviews and the personal extending of an invitation to participate in the program of the first general session to such desirable speakers as he may feel disposed to invite for our first general meeting.

5. Upon motion of Boys–Bruce, the Secretary was authorized to purchase or have constructed for permanent use viewing boxes for our scientific exhibits.

6. Discussion was entered into as to the possible influence and detraction that the American Legion meeting in Detroit, during the same week as our Annual Meeting, would have upon the attendance at Pontiac. After considerable discussion it was the motion of Boys–Cook, that our designated dates of September 22, 23 and 24 be not changed.

7. Upon motion of Bruce–Cook, the action taken at the last Executive Committee meeting regarding Dr. Ignatz Mayer's application for membership was reconsidered and rescinded. After thorough discussion it was moved by Bruce-Cook that, responsive to the recommendations and investigations of the Wayne County Medical Society, Dr. Mayer's application for membership be accepted provided no specific objections were recorded or filed by the American Medical Association.

8. The Secretary presented a communication from the Legislative Committee that contained a request for a special committee to study the activities, policy and program of the County Health Units. After considerable discussion action was deferred and the subject referred to the special meeting of the Council.

9. The Secretary presented a communication from Dr. W. P. Bope, of Decatur, relative to the sending of tonsil cases to the University Hospital. After some discussion this question was referred to the special meeting of the Council.

10. Chairman Corbus presented a communication from the Michigan Anti-Tuberculosis Society and also resolution passed by that body requesting the Michigan State Medical Society and the Post Graduate Department of the University of Michigan to assume direction and administration of the diagnostic tubercular clinics for doctors. After considerable discussion this question and this resolution were referred to the special meeting of the Council.

11. Chairman Corbus presented several important pending problems that require the determination of a policy and stated that it was his opinion that the responsibility for assuming to formulate these policies and for the solving of these problems should not be assumed by the Executive Committee. He recommended that a special meeting of the entire Council be held on May 6, at which time representatives of the several foundations, state associations together with the State Commissioner of Health, who are all concerned and interested in these problems, should be invited to be present and discuss and impart their programs. Upon motion of Bruce–Cook, the calling of a special meeting of the Council for May 6, 1931, was approved and the Secretary was instructed to communicate with the representatives of these several organizations and ascertain whether or not they would be able to be present at this special meeting, and if there was any conflict as to date by reason of previous engagement, that the Secretary in conjunction with Dr. Bruce would determine the most convenient and agreeable time and place for holding this special meeting.

12. The Secretary reported that he had engaged the services of a stenographer to take the proceedings that were held at the joint session of the State Legislature in honoring Doctors Novy, Gomberg and Kahn. Upon motion of Le Fevre–Cook, the Secretary was instructed to edit the stenographer's report and cause it to be published as a supplement to the Journal and that the supplement be sent to all members of the legislature.

13. The Secretary presented a communication from the Chairman of the Civic and Industrial Relations Committee requesting authority to organize in each county society local Civic and Industrial Relations Committees and to arrange for public meetings for the purpose of presenting talks upon scientific medicine and health problems. Upon motion of Bruce–Boys, the Executive Committee expressed sympathetic endorsement of such a proposed program. The Executive Committee feels, however, that such a program should be carefully considered and carefully outlined so as not to conflict or trespass upon the scope of work that is now being accomplished by the Joint Committee of Public Health Education and by the Legislative Committee of the state and county societies. It was further recommended that the Civic and Industrial Relations committee be requested to formulate a detailed program and to communicate this program to the Council for the purpose of consideration and final action.

14. The Secretary announced the death of a former member of the Society, of the Council, Ex-President and Editor of our Medical History, Dr. Colonel B. Burr of Flint. Upon motion of Cook–Le Fevre the Chairman of the Council, Dr. Bruce and the Secretary, were appointed as a committee to draw up suitable resolutions and to spread them upon the Minutes of the Society and to send a copy to Mrs. Burr

15. The Secretary presented a communication from the Chairman of the Medico-Legal Committee, who requested instructions as to whether or not defense should be entered for a doctor who was being sued but whose services, for which suit was brought, were rendered during a four year period of suspension for non-payment of dues and who had within the week previous to the institution of his suit obtained reinstatement of his membership in the County Society. Upon motion of Le Fevre–Boys, the Secretary was directed to instruct the Chairman of the Medico-Legal Committee that with the information at hand and considered and the provisions of our By-Laws for medical legal defense that the State Society declines to assume any liability for the member's defense.

16. The Secretary presented the report of Councilor Ricker in the matter pertaining to the complaint of Dr. Fairbanks of Luther relative to the activities of the Couzens Foundation. The matter having been satisfactorily adjusted Councilor Ricker's report was accepted and filed.

17. Dr. Bruce reported that arrangements were being perfected for holding of Post Graduate Conferences and Clinics in Marquette, Port Huron, Jackson, Benton Harbor, Muskegon, Manistee and Genesee County. The announcements and programs for these clinics will appear in the Journal and will also be sent by mail to the members in these respective Councilor Districts.

19. The Executive Committee adjourned at 10:45 p. m. to meet in May at the special meeting of the Council.

F. C. Warnshuis, *Secretary.*

MERCY HOSPITAL SCHOOL OF NURSING

Mercy Hospital School of Nursing was established in 1904 to provide instruction in the care of the sick and meet the need for nursing service in the hospital, home and community. The student must be a high school graduate and be eighteen years of age. The course of instruction covers a period of three years. A full time Instructress is employed. Since 1920 the School has been affiliated with the Children's Hospital of Michigan, where they receive special training in pediatrics. In 1926 it also affiliated with the Muskegon Junior College, which is conveniently situated on Central Campus, where the basic sciences are taught by expert teachers. Throughout the entire course lectures are given by members of the hospital Staff, who are especially qualified for the subjects presented by them. The students are under the immediate supervision of teaching supervisors and instructors, when on duty in the hospital, where the practical work is correlated with the instruction received in the class room. The School is non-sectarian. It is expected that the students attend the service of their respective churches. The graduates are eligible for registration by the Michigan Board of Registration of Nurses, and through their alumnæ become members of the District, State and American Nurses Association. The present class numbers 45. The School has graduated one hundred nurses, many of whom are employed in Public Health, Institutional and Industrial work. A class of eight will graduate May 26th.

Mercy Hospital, Nurses' Home

The nurses have been using the fourth floor of the hospital for living quarters until such time as a home could be built for their residence. The natural growth of the city brought about an increase in the business of the hospital and the necessary increase in the number in the Training School. The increases made it necessary to room a considerable number of the student nurses in homes near the hospital. This was not satisfactory to the hospital nor for the best interests of the nurses. The situation was brought to the attention of several of the professional, industrial and business leaders of the community who became interested and made a survey of the need of the hospital. The result was the organization of a committee to raise the large sum of four hundred thousand dollars, for the threefold purpose of, first, payment of indebtedness on hospital property; secondly, erection of Nurses' home; and third, construction of Power Plant and Laundry. The campaign was successful but under the plan serial payments were called for and the first payments were used to reduce the indebtedness. Then the building program was undertaken and it was decided that the Nurses' Home should be built first and after its completion the Power Plant and Laundry should be undertaken all on the basis of a pay-as-you-go policy to avoid incurring any new indebtedness. Ground was broken for the Nurses' Home September 24, 1930, and aided by the fine fall weather and the exceptional open winter rapid progress was made in construction. The contract was let at a time when building costs were lower and the hospital was able to get exceptional values as well as careful workmanship.

The new home completely equipped for occupancy cost $125,000.00. It was designed by VanLeyen, Schilling and Keough of Detoit, is two stories in height and accommodates eighty nurses. The walls of reinforced concrete are faced with pressed brick and are so designed that a third story can be added without extra expense in designing extra supports. The building is fireproof throughout, the floors and walls all being of concrete and non-inflammable materials.

Mercy Hospital, Muskegon

Having dimensions of 183 by 42 feet the rectangular structure is located on the northwest corner of the hospital property and faces the hospital. It is connected with the hospital by an underground passageway. All non-essentials in architecture have been eliminated in the simple but attractive style of building. The outstanding feature is the front entrance, which is elevated and is reached by two symmetrical flights of steps. The floors throughout are terrazzo. Cheerfulness radiates from every corner of the home. On the first floor are a lobby, living room, library, reading room, office, two reception rooms, 21 sleeping rooms and lavatories, which are of sufficient size to accommodate the occupants of the first floor. At each end of the hallway is a sun parlor, accessible from the first floor. The second story is devoted to sleeping quarters and lavatories. There are twenty-nine sleeping rooms and two wash rooms.

One of the features of the ground floor is a small auditorium, 39x40 feet, for which the stage is 20x21 feet in dimensions. This has seating capacity for 200 persons and will be used for lectures and other meetings of appropriate character. A gymnasium 30x40 feet with a 14 foot ceiling will give the nurses opportunity to have physical exercise at all times of the year regardless of the weather conditions out of doors.

Also on the ground floor is an administration room, a dietetic laboratory, coat room, trunk storage room, sewing room and laundry. A kitchen, wash rooms and two sleeping rooms for employes.

The Nurses' home will be opened May 12, National Hospital Day. A reception will be held for the public in the afternoon and evening.

MERCY HOSPITAL OF MUSKEGON, MICHIGAN

Mercy Hospital of Muskegon, Michigan, is a Michigan Corporation organized under the laws of the State of Michigan. It was

founded in 1903 when the L. G. Mason property comprising the entire block of land 350 feet on Jefferson Street and a depth of 390 feet on Grand and Southern Avenues, Fifth street being on the west, was purchased by the Sisters of Mercy for the purpose of conducting a hospital for the care of the sick and injured. The Sisters had little funds and much effort was required on their part.

In 1904 thirty rooms were added, increasing the capacity to forty beds. The service increased each year and in 1913 a campaign was launched, the receipts from which formed a nucleus for the new building. Additional funds obtained through subscriptions from firms and individuals and money raised from various functions sponsored by friends of the hospital made possible the erection of the new hospital.

The hospital designed to accommodate one hundred patients is picturesquely situated in the center of the block and includes the most modern conveniences known to hospital construction. The main entrance is on Central Campus. It was opened April 15, 1921. It consists of four stories and basement and is strictly fireproof throughout, consisting of reinforced frame, brick and tile walls and terrazzo floors.

The hospital is conducted by the Sisters of Mercy, each department being under the supervision of a Sister. The Medical Staff is open. Dr. Geo. L. LeFevre is Chief of Staff and each department is in charge of a competent physician, specialists in their various departments. It is rated as Class "A" hospital by the American College of Surgeons and also recommended by the American Medical Association for Interne service. There have been 33,383 patients cared for since 1903. Hundreds have been cared for free of charge and many have been able to pay but little for their care, as no one is denied admission regardless of race, creed or ability to pay for service.

LICENSING SPECIALISTS

Dr. George E. Follansbee, chairman of the Judicial Council of the American Medical Association, quite recently has spoken publicly before a meeting of welfare workers concerning the inadequacy of medical service rendered a large part of our population, and he deplored the passing of the old-fashioned family doctor and the increase in the number of poorly educated and inadequately trained specialists with their bid for large fees and their willingness to render poor and oftentimes unnecessary services. Doctor Follansbee says that the medical profession must undergo reorganization with the idea of making it possible for all the people to receive good medical and surgical services at any and all times and at a cost that can be borne. He believes that one of the first steps to be taken is to adopt and put into effect some plan whereby *no* physician will be permitted to hold himself out as a specialist unless it can be shown that he has been educated and trained sufficiently to justify legal permission for such distinction. It further is stated that the public is becoming fully acquainted with the unsatisfactory conditions that exist today and that unless the medical profession itself corrects conditions then the state must attempt to solve the problem. It may not be amiss to call attention to the complaint made repeatedly in lay periodicals that at the present time there is no way by which the rank and file of the public can determine "who is a good doctor." It doesn't do to refer to membership in the local, the state or the national medical organization (American Medical Association) for many incompetent as well as dishonest physicians are members of all three organizations. It doesn't do to say that a physician having a large practice is a good physician, for quacks and impostors sometimes have large practices for a while. However, there should be some way of estimating a physician's ability by the amount and character of education and training he has had, and the manner in which he applies what he knows. But again referring to Doctor Follansbee's suggestions concerning reorganization of the medical profession, when are we going to start? Are we going to continue our present apathetic attitude and awaken only when the state medicine bombshell strikes us full force? Public sentiment is ripe for a change in our present plan of furnishing medical and surgical services, and already lay reformers are agitating various visionary and impractical schemes for regulating and controlling medical and surgical service. The problem is one which the medical profession should solve, and it is time for us to begin a reorganization of activities before someone else does it for us. An error now will be very difficult to correct later.—Indiana State Journal.

COUNTY SOCIETIES

CHIPPEWA AND MACKINAC COUNTIES

Officers of the Chippewa and Mackinac Medical Society for the year 1931 are as follows: Dr. C. Willison, president; Dr. E. H. Webster, vice president; Dr. I. V. Yale, secretary-treasurer.

DICKENSON-IRON COUNTIES

New officers for the Dickenson-Iron Medical Societies for the coming year are: President, Wm. H. Alexander, Iron Mountain; vice president, Robert E. White, Caspian; secretary-treasurer, D. R. Smith, Iron Mountain.

GRATIOT-ISABELLA-CLARE COUNTY

The March meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Wright House, Alma, March 19. Fourteen members and four visitors had dinner together, after which President Harrigan called the meeting to order. Minutes of the previous meeting were read and approved.

Communications were read relative to legislative matters and every member was urged to write our State Senator, William F. Turner, requesting his opposition to the Chiropractor Bill.

President Harrigan then introduced Dr. Vernon L. Hart, from the Department of Surgery, University Hospital, who gave an illustrated lecture entitled, "Present Applications of Bone Grafting." This was listened to attentively by every one present.

On behalf of the Society, President Harrigan thanked Doctor Hart for his very instructive lecture.

Meeting adjourned.

E. M. Highfield, M.D., *Secretary.*

MARQUETTE-ALGER COUNTIES

The annual meeting and election of officers was held December 16, 1930. Dr. Harold Markham, Marquette, was elected president; Dr. Daniel P. Hornbogen, Marquette, scretary-treasurer; Dr. Nels Robbins, Negaunee, vice president; Dr. Vivian Vandeventer, Ishpeming, delegate to the State Medical meeting, and Dr. Alfred W. Hornbogen, Marquette, alternate.

MONROE COUNTY

Monroe County Medical Society reports good attendance at recent meetings and good programs, too.

Dr. H. T. Gray, formerly of Shiawassee County, is now practicing in Maybee. In February he was received as a member by transfer from Shiawassee County Society.

At the meeting February 19, 1931, Dr. Vernon L. Hart, of the Department of Orthopedics of the University Hospital, Ann Arbor, gave an address on "The Recognition, Classification, and Treatment of the Various Types of Arthritis." He illustrated his talk with lantern slides. By the time Dr. Hart was through, we had all decided that there really is much that can be done for the arthritic patient. His paper and his pictures were highly interesting.

The March 19 meeting was a double-header. Dr. L. F. Lashmet, of the University Hospital, gave a talk on "Nephritis." He explained the method recently evolved at University Hospital of treating chronic parenchymatous nephritis with neutral diet and acid medication. This work is to be presented to the profession at the meeting of the American Medical Association in Philadelphia next June. We are glad to get in on it early.

Dr. John Sundwall, of the Legislative Committee of the State Society, was the second feature. He explained to us the ideal scheme for the licensing of all professional classes by one general education board.

Florence Ames, M.D., *Secretary.*

MUSKEGON COUNTY

The Muskegon County Medical Society held its annual meeting in December, with election of officers as follows: President, Dr. H. J. Pyle; vice president, Dr. H. F. Bartlett; secretary and treasurer, Dr. R. J. Douglas; delegate to State Society, Dr. F. W. Garber, Sr.; alternate, Dr. C. J. Bloom; medico-legal adviser, Dr. George L. LeFevre.

A contribution has been made by the Muskegon County Medical Society to the Pershing Memorial Hall Fund.

There have been two deaths in our Society since the beginning of the year—Dr. Jacob Bursma of Muskegon and Dr. A. G. Burwell of Whitehall, Michigan.

The Muskegon County Medical Society has endorsed the action of the council, in regard to the handling of insurance blanks.

Robert J. Douglas, *Secretary.*

OTTAWA COUNTY

On December 10, 1930, the following officers were elected for the Ottawa County Medical Society: President, Dr. William Tappan, Holland; vice president, Dr. E. H. Beernink, Grand Haven; secretary-treasurer, Dr. W. B. Bloemendal, Grand Haven; delegate, Dr. A. Stickley, Coopersville; alternate delegate, Dr. S. L. DeWitt, Grand Haven.

W. B. Bloemendal, *Secretary.*

WAYNE COUNTY

The first annual joint meeting between the Detroit Bar Association and the Wayne County Medical Society will be held on Tuesday, May 5. An interesting program is being arranged by the two committees representing these professional groups.

Dr. Milton B. Cohen of Cleveland has been invited to appear on the Society's program of Tuesday, May 12. Dr. Cohen is recognized as one of America's leading allergists and his presentation should be of great interest to all practitioners in this State.

Mr. H. S. Stevens of Rutherford, New Jersey, will address the Society on May 19th on the "Economics of the Profession."

Dr. Willis C. Campbell of Memphis, Tennessee, will address the Wayne County Medical Society on Tuesday, May 26. The subject will be "Ununited Fractures."

The Cafe of the Wayne County Medical Society served 2,336 luncheons during March, 1931. This was an increase of 274 over February. In addition, the Cafe served 163 dinners by special reservations. All out-of-Detroit physicians are invited to avail themselves of the Cafe for luncheon purposes when they are visiting in Detroit.

The American Medical Golfing Association Tournament will be held over the Aronomink course in Philadelphia June 8, 1931. Over thirty prizes will be offered at this Seventeenth Annual Tournament of the Association. Three hundred doctors from all over the United States are expected this year. Plan to attend and enjoy a great day.

The Civic and Industrial Relations Committee of the Michigan State Medical Society held a meeting in the Cafe of the Wayne County Medical Society on April 20. Representatives of insurance companies were present at this meeting to discuss the matter of physicians charging insurance companies for the execution of blanks and reports, in accordance with the State Resolution passed two years ago.

During the twenty-six working days of March, 1931, 5,139 pieces of mail were handled by the Executive Office of the Wayne County Medical Society. This was an average of 196 per day.

Lord Moynihan's broadcast from Leeds, England, on "The Future of Surgery" has been printed in The Bulletin of the Wayne County Medical Society. Copies of The Bulletin will be sent to any member of the State Society, upon request.

The Detroit Physicians Business Bureau, under the management of Mr. John J. Wells, has signed a new contract with the Board of Trustees of the Wayne County Medical Society for the collection of members' accounts by the Bureau. The Bureau has been in operation for sixteen years. A contin-

uation of satisfactory service to physicians and surgeons is guaranteed for the future in the signing of this contract.

Paint Up—Clean Up Week will be celebrated in Detroit May 4 to 9 inclusive. This campaign is being sponsored by the Detroit Board of Commerce with the coöperation of the Wayne County Medical Society and the Detroit Department of Health.

An analysis of Detroit's physicians and surgeons, following the study made in 1929, has been published by the Committee on the Costs of Medical Care. A résumé of this report was published in The Bulletin of the Society, issue of April 21. Copies are available.

Dr. H. B. Van Hyning's license was revoked by the Michigan State Board of Registration in Medicine because of unprofessional conduct and for maintaining a professional connection with an unlicensed individual, Harry Hoxsey of the so-called Hoxsey cancer clinic, which recently moved to Detroit from Muscatine, Iowa.

The Public Education Committee of the Wayne County Medical Society will begin a new series of radio broadcasts over Station WEXL in May. One lecture per week will be given by members of the Society.

Detroit won first place in the Inter-City Health Conservation Contest sponsored by the United States Chamber of Commerce. The award, made April 9, stated that Detroit was the most solicitous of all the cities of the country regarding the health of its citizens. Two hundred and fifty cities competed and Detroit's total of points stood at 997 out of a possible 1,000. The splendid report is the result of coöperative work between the Detroit Board of Health, the Public Health Committee of the Detroit Board of Commerce, and the Public Health Committee of the Wayne County Medical Society.

The Annual Election of the Society will be held Tuesday, May 19. The newly elected officers will be entertained at a banquet by members of the Noon Day Study Club on Wednesday, May 20.

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, President, Jackson, Mich.
MRS. W. L. FINTON, Secretary, Jackson, Mich.

BAY COUNTY

Bay County Auxiliary met March 15 at the Plum Tea Room, Bay City, for dinner. After the regular business meeting the ladies sewed on garments for the Civic League. It was voted to furnish one of the rooms in the memorial hospital soon to be erected in Bay City. The next meeting will be held at the home of Mrs. L. F. Foster, May 13.

OAKLAND COUNTY

The Women's Auxiliary of the Oakland County Medical Society met March 27 at the Royal Oak Women's Club in Royal Oak. About forty members were present to enjoy the excellent luncheon, and program.

Mrs. Palmer Sutton of Royal Oak rendered two violin numbers which added much to the pleasure of the occasion. Following the luncheon a brief business meeting was held, after which Dr. Ly Werner of the Oakland County Tuberculosis Sanatorium gave a most interesting and instructive talk on tuberculosis in children and the treatment received by them in the Oakland County institution.

The next meeting will be a Benefit Bridge and Tea and will be held at the home of the president, Mrs. Frank A. Mercer, April 24.

MEDICAL ECONOMICS

THE PRIVATE GROUP CLINIC

A study of private group clinics in the United States* made for the Committee on the Costs of Medical Care by C. Rufus Rorem has been issued as Publication No. 8 of the Committee.

There are approximately 150 such clinics, with a total medical personnel of about 2,000. They represent a comparatively recent development in medical practice, most of those now in existence having been organized since the World War. Almost none is to be found in the eastern States; the majority are in the middle west.

The average capital investment in plant and equipment, excluding hospital facilities, was $10,000 per practitioner in seven clinics which supplied information on this point. The average capital investment in medical equipment and apparatus was $3,600 for 217 practitioners in nineteen clinics supplying information.

There are two general classes of clinic practitioners: Those who share in the ownership of the clinic assets and participate in its profits; those employed solely on a salaried basis. The former group is composed of relatively older men. Data from 34 clinics revealed an average of 20 years since graduation from medical school for the "owners" and 8 years since graduation for the "salaried" physicians.

Of 415 clinic physicians listed in the 1929 American Medical Directory, 337 were members of the American Medical Association. Clinic physicians were found to belong to specialized associations to a greater extent than independent practitioners in the same communities, a result, in part, of the fact that a larger percentage of clinic members are specialists.

The distribution of the various specialties among 50 clinics was as follows, indicating those groups in which each specialty was represented by at least one practitioner: Internal medicine, 50; surgery, 50; eye, ear, nose and throat, 46; obstetrics, 37; urology, 35; pediatrics, 30; X-ray, 27; pathology, 26; dentistry, 17; gynecology, 17.

Perhaps the most striking development in group clinic practice is the "business office," a separate department under a lay business manager who is an employee and whose duties and responsibilities are determined by the clinic physicians. Financial dealings with patients usually rest in the hands of these business managers, physicians wishing, it appears, to have as little of these as possible although their wishes with regard to the establishment of fees prevail.

According to statements by forty-two clinic managers, clinic fees appear to be regarded by the general public as neither higher nor lower than those of local doctors in private practice. Twenty-one managers say their fees are "about the same," eight say they are "higher" and thirteen that they are "lower" than those of independent practitioners.

The practice of the typical private group clinic is essentially local. The majority of patients, managers say, are persons of moderate means, with a considerable number who might be classed as well-to-do, and a few others who are very poor.

Approximately one-fourth of 60,000 patients served in fourteen clinics in 1929 were hospitalized during diagnosis or therapy. Approximately 10 per cent of 41,000 patients in ten clinics were treated

*Private Group Clinics: The Administrative and Economic Aspects of Group Medical Practice as Represented in the Policies and Procedures of 55 Private Associations of Medical Practitioners, by C. Rufus Rorem, Ph.D., C.P.A., Committee on the Costs of Medical Care, Washington, D. C.

by major surgery. In twenty-one clinics, 528,000 visits by patients were received by 215 members, an average of 2,459 per practitioner.

Data were received from twenty-seven clinics regarding gross and net income per practitioner. Gross incomes ranged from $10,708 to $25,606, and net incomes from $5,960 to $17,449. The average gross income for each of the 314 practitioners was $14,908, and the average net income, $9,747.

The conclusions drawn by Mr. Rorem from his study embrace the following:

"I. Group clinics are in direct economic competition for the medical service which constitutes the major portion of the practice of independent practitioners.

"II. The economic success of group practice depends upon the degree of utilization of the capital investment and of the time of the individual practitioners. The medical service of a clinic cannot usually be adjusted to the convenience of a patient as easily as can the services of an independent practitioner. Where, however, a patient requires the services of several specialists he can probably obtain treatment with less inconvenience and expense at the office of a clinic than from separate practitioners.

"III. The members of private group clinics generally make an effort to maintain a personal relationship between physician and patient.

"IV. The volume of medical service carried on by a private group clinic makes possible the establishment of a specified maximum fee for difficult individual cases and for complete annual service to groups of patients.

"V. Clinics have in general provided net incomes and working conditions for physicians which make possible the continued development of group practice. The removal of financial and administrative responsibilities from the individual clinic practitioner has made him more completely available for professional service, and has, in some clinics, increased his opportunities for scientific research and development.

"VI. The employment of business managers has usually resulted in increased administrative economy and efficiency. The establishment both of fees and of collection policies is based upon financial data obtained through conventional business methods. Inasmuch as the financial status of a clinic patient is usually investigated, group clinics probably perform less 'free service' than would an equal number of independent practitioners doing the same volume of work.

"VII. Private group clinics, through their available equipment and their coördination of medical specialists, are in a position to fulfill the basic requirements of good medical care with economies from which either or both the clinic members and the public may benefit."

RÔLE OF STATE HOSPITAL IN MENTAL HYGIENE

J. Allen Jackson, Danville, Pa., cites facts that warrant the following conclusions: 1. The mental hospital can be made one of the keystones of the mental hygiene movement. 2. It has and always will play a definite rôle in research and treatment. 3. Its clinics and educational activities are two of the greatest forces in carrying the doctrine of prevention. 4. It lends its broad arms to medical education. 5. It is one of the greatest mediums for public enlightenment. 6. All of which may be done with satisfaction, peace and harmony in its many related fields. 7. The coöperation of the physicians in the district will simplify and make possible the approach to the problems.—Journal A. M. A.

THE DOCTOR'S LIBRARY

RECENT ADVANCES IN BIOCHEMISTRY. John Pryde, B.Sc. (St. Andrews), M.Sc. (Wales), Lecturer in Physiological Chemistry, Welsh National School of Medicine. Third edition, with 42 illustrations, 393 pp. P. Blakiston's Son & Co., Inc., 1931. $3.00.

Extensive additions have been made in the third edition of this work and in order to keep the work near the size of the former editions the author has omitted chapters on colloids and chemotherapy. The subjects treated at present are: Protein structure and proteolytic enzymes, amino acids and urea formation, sulphur compounds and protein metabolism, tyrosine, nucleoproteins, carbohydrates, fats, phosphorous compounds, bile acids and sterols, vitamines, hemoglobin and natural pigments and the chemical basis of specific immunological reactions. The index makes details easily available.

RECENT ADVANCES IN HEMATOLOGY. A. Piney, M.D., Ch.B. (Birmingham), M.R.C.P. (London), Hematologist, Cancer Hospital, London; Consulting Pathologist, Chelmsford Hospital. Third edition with 4 colored plates and 18 text figures, 348 pages. Philadelphia: P. Blakiston's Son & Co., Inc., 1931.

The present edition of "Recent Advances in Hematology, the third since 1927, differs from the previous edition in the presence of chapters on anemias with low color index and on sickle cell anemia. Former chapters have been considerably revised. The work now includes chapters on the reticulo-endothelial system, development of blood cells, leukemia, anemias, infective and non-infective leukemoid blood pictures, polycythemia and splenomegaly. The work is indexed, has a glossary and gives the rudiments of hematological technic.

SELECTIONS FROM THE PAPERS AND SPEECHES OF JOHN CHALMERS DaCOSTA, M.D., LL.D. Samuel D. Gross, Professor of Surgery, Jefferson Medical College, Philadelphia, Pa. 440 pages. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, $6.50.

This is a book for the doctor's leisure reading. It is concerned with an interesting variety of subjects by a writer who possesses a unique faculty of writing entertainingly on whatever subject he chooses. There are twenty-one topics. As examples we may mention: The Trials and Triumphs of a Surgeon; Dickens' Doctors; The Surgeon, the Patient and Clinical Diagnosis; Behind Office Doors; Certain Tendencies in Medicine; The Personal Side of Pepys; Baron Lorrey; A Sketch. Who wouldn't be interested in an evening with such reading matter? There are also appreciations of such medical worthies as Samuel D. Gross, W. W. Keen and Crawford Long.

INTRODUCTION TO MEDICAL BIOMETRY AND STATISTICS. Raymond Pearl, Professor of Biology in the School of Hygiene and Public Health, and in the Medical School, The Johns Hopkins University. Second edition, revised and enlarged. 459 pp. Philadelphia and London: W. B. Saunders Company, 1930.

This edition of Professor Pearl's "Medical Biometry and Statistics" has been subjected to a general revision aimed better to adapt the work to the needs of students. Nearly half the chapters deal with the practical problems of the collection and treatment of data on disease prevalence, death and birth. The remaining chapters are concerned with the theory and application of the mathematical devices used in the statistical and graphic representation of data. The work is written with the idea of presenting mathematical concepts to men of medical training, that is, the work is as practical and as free from abstruse mathematical verbiage as such a work can be.

SURGICAL NURSING. Hugh Cabot, M.D., F.A.C.S., Senior Consultant, Mayo Clinic, Rochester, Minn., and Mary D. Giles, B.S., R.N., Associate Professor of Nursing Education, Vanderbilt University, Nashville, Tenn. 428 pages with 123 illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, $3.00.

A miniature book on major surgery. It is a very interesting little work and doubtless any nurse would be benefited by an intelligent reading. However, as a means of fitting the nurse for a great deal of the work now being done by the physician we doubt its adequacy or desirability. In the preface we are told that, "it is beyond a doubt that the properly trained nurse is today doing many things which, in the not distant past, were clearly comprehended under the term 'practice of medicine'." And also, "one can confidently predict that in the reasonably near future the nurse will have taken over a considerable part of the field which is even today regarded as the practice of medicine." With this conviction the authors have presented the underlying principles of surgery which form largely the contents of the book. The desirability of the trained nurse entering upon any part of the practice of medicine is wholly absurd.

ROENTGEN INTERPRETATION, A MANUAL FOR STUDENTS AND PRACTITIONERS. George W. Holmes, M.D., Roentgenologist to the Massachusetts General Hospital and Assistant Professor of Roentgenology, Harvard Medical School; and Howard E. Ruggles, M.D., Roentgenologist to the University of California Hospital and Clinical Professor of Roentgenology, University of California Medical School. Fourth edition, thoroughly revised. Illustrated with 237 engravings. Philadelphia: Lea and Febiger, 1931. Cloth, $5.00 net. 1931.

This edition is one of the best known textbooks on roentgen interpretation. It has been thoroughly revised and is now up-to-date in every respect. All the essential points of roentgen diagnosis are covered briefly but in a comprehensive manner. There are many illustrations which have been accurately and distinctly reproduced from films depicting the various pathological conditions. The sub-title of the book indicates that it is intended for students and practitioners, but throughout the work the authors emphasize the necessity of thorough training, careful work and experience for success in roentgenology. In this day of high pressure salesmanship, X-ray apparatus has come into the possession of practitioners with little or no training in roentgen interpretation. A short course in technic is given by the manufacturer, and the physician is left to work out the diagnosis by the trial and error method. This book is indispensable to such a person. Since the X-ray has become such a universal diagnostic aid in medicine it seems that all physicians should have a fundamental knowledge of roentgenology. This edition is an ideal source of such knowledge.

CANCER, ITS ORIGIN, ITS DEVELOPMENT AND ITS SELF-PERPETUATION. The Therapy of Operable and Inoperable Cancer in the Light of a Systemic Conception of Malignancy. A research by Willy Meyer, M.D., Consulting Surgeon to the Lenox Hill and Postgraduate Hospitals, New York Infirmary for Women and Children, etc.; Emeritus Professor Surgery, N. Y. Postgraduate Medical School. New York: Paul B. Hoeber, Publisher.

The author makes a statement that should be driven home to every physician and to every layman: "The cancer problem is of such breadth that, in all the natural sciences, there does not seem to be any subject whatsoever that in some way or other does not bear on it. The limits of the ramifications of the cancer problem seem to coincide with the limits of science itself." Any one at all versed in the literature of and experienced in the diagnosis and treatment of cancer must at once appreciate the truth of this statement. Whether or not we agree with the premises the author has laid down and the conclusions he has reached, we must give him credit for having made a valuable, correlated study of the literature on cancer and the allied sciences that seem to have a direct or indirect bearing on the subject.

He acknowledges that at one time he clung to the parasitic or germ theory of cancer. But ten years ago, when he asked Aschoff whether or not he thought a specific cancer agent would ultimately be discovered, Aschoff replied that if he should reach Methuselah's age he would not have lived long enough to see that happen. No doubt, that is the dictum today.

To demonstrate Maud Slye's heredity theory of the origin and the cure of cancer in the human being (her classical work on mice is now quite generally accepted) would probably take several hundred years of observation, unless, as the author suggests, the hereditary factor of susceptibility could be determined by biochemical examination of the blood serum. That, of course, is a possibility. The causative factor the author believes to be chronic irritation which is both systemic and local. Systemic chronic irritation, he endeavors to show, may be hereditary or acquired through some dysfunction of the vegetative nervous system. In any event, it follows cell necrosis, or necrobiosis, which forms a "focus" in which cancer starts and from which it spreads. The decomposition results in the formation of "necro-hormones," or "necrones," as he prefers to call them, which stimulate cells to multiply, differentiating them, and causing them to lead an independent, vagrant existence, which, however, is short lived. The *primum movens*, however, is found not in the cell, but in the media about it, which injures its architecture and physiological function.

Cancer cells cannot develop in normal media which cause lysis. He believes the pH is higher in the sera of cancer patients due to a higher ratio of potassium calcium in favor of potassium; that the functions of the vegetative nervous system are controlled by the calcium-ion content of the serum; that when the calcium is diminished there is a reaction on sympathetic nervous system so that a vicious circle of chronic irritation is brought about; that the alkalosis from the deficiency of the sympathetic and para-sympathetic results in a hydropic condition of the cells, because of which the cells subjected to trauma do not heal, but undergo necrobiosis which may result in acquired susceptibility or aggravate an inherited susceptibility; that the "necrones," developing in the precancerous "focus" in a condition of alkalosis, perpetuate, in a vicious circle, the growth and metastasis of cancer; that cancer cells cannot grow in a condition of acidosis.

The reviewer is of the opinion that, while he has enjoyed reading this book (which, by the way, contains a tremendous amount of repetition), he feels that the author's conclusions are hardly warranted, yet the opinions and findings of so many experienced men woven into a connected story as he presents it furnish much food for thought. The wide field of unrelated literature and able argument (not, however, always based upon fact) are worthy of the consideration of the special student of cancer, but the general practitioner of medicine with little experience, and a limited study of the subject, after reading this book should make much further study before accepting it as gospel.

Rollin H. Stevens, M.D.

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CONTENTS

The Surgical Treatment of Gastric and Duodenal Ulcer. E. Starr Judd, M.D. 409
Behavior Disorders in Childhood and Their Relation to the Pediatrician, Louis A. Schwartz, M.D. 413
The Physical and Economical Advantages of Gynoplastic Repairs for Old Lacerations, at or Shortly After Childbirth. J. L. Bubis, M.D., F.A.C.S. 418
The Diagnosis and Treatment of Acute Osteomyelitis in Children. Grover C. Penberthy, M.D., F.A.C.S. 424
Behavior Problems of School Children. Willard C. Olson 428
The Diagnosis of Tuberculosis of the Spine. Norman L. Capener, F.R.C.S. 431
The Management of the Surgical Diabetic. Don W. McLean, M.D. 434
Air Embolus of Retinal Artery. Alfred Dean, M.D. 439
Deep Suppuration in the Pharynx and Neck as it Concerns the Laryngologist. Samuel Iglauer, M.D. 440
Sarcomatous Tumor of the Testicle: Case Reports. Joseph Johns, M.D. 443
A Discussion of the History of Sympathetic Surgery. W. Andrew Bunten, M.D. 445
A Simple Device for Obtaining Lower Leg Traction. Philip D. Amadon, M.D. 452
Famous Men in Medical History: Ephraim McDowell and Early American Surgery. Karl L. Sicherman 453
Michigan's Department of Health. C. C. Slemons, M.D. 460
Courses for Graduates. June 15 to 27, 1931, Detroit 462
Editorials:
Culture in Medicine 463
Detroit Doctors' Incomes 464
Writing Medical Papers 465
Medical Graduates 466
Dr. Frank Burr Tibbals 467
Good Fellows Get Together 467
Dr. Richard R. Smith, Regent 467
Congratulations Detroit Free Press 468
Post Graduate Instruction 469
General News and Announcements 470
Deaths 471
Dr. Frank Burr Tibbals. C. E. Simpson, M.D. 472
Society Activity 473
County Societies 481
Woman's Auxiliary 484
The Doctor's Library 485

THE SURGICAL TREATMENT OF GASTRIC AND DUODENAL ULCER*

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The patient with peptic ulcer wishes to know what will be the best plan for him to follow in order to obtain relief from his symptoms, and protection against complications and recurrence of ulceration.

Peptic ulcer is a much more common condition than is generally realized. In the beginning, a comparatively simple lesion is present. Often this heals after a period of a few weeks, and no further symptoms occur; in other instances, healing can be induced by giving the proper diet and other treatment.

Since it is known that some of the ulcers heal spontaneously, and that others may be made to heal, it is proper that those cases in which symptoms are not severe and in which the history is short should have the benefit of a carefully regulated dietary regimen before surgical treatment is considered. In the event this fails, or cannot be carried out satisfactorily, surgical treatment is indicated. If, at the time the patient presents himself, symptoms have persisted for

*Read before the Michigan State Medical Society, Benton Harbor, September 17, 1930.

†President of the American Medical Association.

a long time, and if there is evidence of hemorrhage, perforation, or obstruction, surgical treatment should be carried out without delay.

In any case in which operation is required, the surgical treatment should be conservative, as it has been shown that satisfactory results are obtained by this method. In a recent paper I reported results with the conservative operation for duodenal ulcer. This operation consists in removal of the ulcer, and of the cap of the duodenum, together with all of the pyloric sphincter muscle that can be readily excised. This local operation is not applicable in all cases; it must be confined to those in which the upper part of the duodenum is accessible. It can be carried out satisfactorily in about 50 per cent of all cases of duodenal ulcer.

The local operation has not gained in popularity, largely because gastro-enterostomy has been satisfactory in most cases, and furthermore because the procedure is difficult in cases in which the duodenum is fixed. Gastro-enterostomy should be avoided in any case in which the facts would indicate that gastrojejunal ulcer is likely to occur. Although it is not possible to estimate accurately beforehand whether a secondary ulcer is going to develop after gastro-enterostomy, nevertheless, there are certain cases in which it is reasonably certain that gastro-enterostomy will be satisfactory. There are others in which susceptibility to gastrojejunal ulcer will be more likely to be present. I believe that this difference is largely an accompaniment of the age of the patient, and of the duration of the symptoms. Older persons, who have had a long history of trouble, and who have had considerable deformity of the duodenum for a long time, are almost certain to obtain complete and permanent relief from gastro-enterostomy. On the other hand, younger persons, who have a short history, and who are found to have a small ulcer or ulcers, which produce only slight change in the contour of the duodenum, are much more likely to be afflicted by development of an ulcer in the stoma following gastro-enterostomy; on this account, when it is necessary to operate on such patients, gastro-enterostomy should be avoided if possible.

The immediate mortality of the local operation, in my experience, is lower than that in any other group of cases in which operation is performed on the stomach or duodenum. The immediate mortality following operation for gastric or duodenal ulcer is due either to pulmonary complications or to peritonitis. I believe we have been able to show that pulmonary complications are less common in local operation for duodenal ulcer than in gastric operations in general. Bronchopneumonia was the cause of death in one case. In several other cases, pneumonia, pleurisy or bronchitis occurred, and there were three cases of pulmonary infarct, but none of these was fatal.

My colleagues and I have done some type of local operation for duodenal ulcer in 1,002 cases, and we have excised the cap of the duodenum with the ulcer and pyloric sphincter in 464 of these. In the 1,002 cases, there were only two deaths in hospital.

Infection has not been the cause of a death, and in only one case is there any reason to feel that there was leakage from the suture line. In this case, infection was evident soon after the operation, and in a short time a subphrenic abscess formed. Although convalescence was prolonged, the patient eventually recovered. Duodenal fistula did not exist at any time. The explanation of the low percentage of cases in which infection took place would seem to be that soiling from this part of the gastro-intestinal tract does not so often result in infection. All of the local operations are performed without clamps, and in each case there is certain to be soiling from the fluids of the stomach as well as from those of the duodenum. If these fluids carried virulent organisms, most certainly the incidence of infection would be much higher. In view of the fact that pulmonary complications have occurred less frequently than in gastric operations in general, and that so few severe infections have developed, the results of this local operation have been gratifying.

In order to obtain good results from the local operation, it is necessary to remove more than the duodenal ulcer. The first local operation for duodenal ulcer to be performed in the clinic was done in 1896, and the first excision of a duodenal ulcer, in 1902. From that time on, for a number of years, very few of these operations were performed. This was largely due to the fact that gastro-enterostomy was uniformly satisfactory. The immediate result of gastro-enterostomy probably is a little more nearly

complete relief from dyspepsia than that obtained by the local operation. A study of the ultimate results shows that gastro-enterostomy was satisfactory in more than 90 per cent of the cases. The local operation, excision of the ulcer, gives practically the same percentage of ultimate satisfactory results. The ultimate results depend largely on the character of the original complaint. If the history of ulcer is definite and clear cut the results are certain to be good, whereas if the original history is confused by other complaints, then the patient probably will not be free from symptoms after any operation for ulcer. Of 464 cases in which the complete local operation was performed, a typical syndrome of ulcer was present in 402 and in these cases the result was uniformly satisfactory.

Study of the physiology of the stomach, after a local operation with excision of the sphincter muscle has been performed, shows that about the same change has been brought about as would result from gastro-enterostomy. The stomach empties quickly, the concentration of gastric acids is reduced but the acids are rarely absent, as sometimes occurs following gastro-enterostomy. Alvarez has studied many of these cases from the physiologic standpoint and has demonstrated these facts. He has further shown that in spite of the fact that a great part of the sphincter muscle is removed, together with some of the musculature of the lower end of the stomach, nevertheless the contents of the stomach pass into the duodenum under slight sphincteric control. It is likely, however, in most instances, not only that the stomach empties quickly, but that in many cases there is regurgitation of the duodenal contents into the stomach resulting in neutralization of the gastric acids. Increasing experience with this operation, and comparison of the ultimate results of the cases in which operation has been performed recently with those in which it has been performed earlier, seem to show that wide excision of the sphincter and musculature at the pyloric end of the stomach is necessary in order to obtain the most satisfactory results.

Because of the fact that a bleeding ulcer may continue to bleed after gastro-enterostomy, the local operation is definitely indicated in all cases in which there is a history of bleeding. However, some bleeding may occur after the local operation. In some of the cases there was only one hemorrhage; in others there were several. Due to the fact that in most of the cases in which bleeding occurred following excision of the ulcer, and to the fact that the bleeding was not severe and subsided completely, one is inclined to think that in most instances the lesion probably was an associated inflammation in the duodenum. The results would seem to indicate that unless the hemorrhages occur frequently, further operation is not required. In one of the cases, bleeding did continue, and it was finally discovered that the patient had hemorrhagic purpura. Bleeding ceased immediately after removal of the spleen. In one other case, because of recurrent hemorrhages, operation was repeated, and gastro-enterostomy was performed. A recurring ulcer could not be demonstrated.

Multiple ulcers occur frequently. Most often, the lesions found are an ulcer, or duodenitis, on the anterior surface, in the cap of the duodenum, close to the upper border, and associated with this is an area of duodenitis on the posterior wall of the duodenum just below the pyloric sphincter. These conditions can be demonstrated just as soon as the duodenum is opened. In other cases there will be a crater-type of ulcer on both the anterior and posterior surfaces, and in performing a local operation both of these lesions should be excised. However, in the event that the posterior lesion is duodenitis, it is not necessary to treat it. In certain cases the anterior lesion may be a small ulcer, or an area of duodenitis, but as soon as the duodenum is opened a large, crater-type of ulcer may be found on the posterior surface of the duodenum, in some instances at a considerable distance below the pyloric sphincter. These posterior ulcers have been excised when possible. Although the results from these procedures are better than would be expected, that is, satisfactory results have been secured in about 70 per cent of cases, nevertheless, when a large posterior ulcer is encountered, it might be best to excise the anterior lesion and then complete the operation as a posterior gastro-enterostomy.

Study of the immediate mortality and the ultimate results of local operations for duodenal ulcer seems to justify the conclusion that this operation has a very definite place in the surgical treatment of duodenal ulcer.

When the ulcer is on the lesser curvature of the stomach it should be excised, if this can be done without causing too much gastric deformity. This procedure should always be accompanied by gastro-enterostomy, since excision of a portion of the lesser curvature possibly can interfere with gastric motility. In the event that the ulcer is large, and near the pylorus, the stomach should be partially resected. Frequently, midgastric resection is suitable if the ulcer is situated above the middle of the stomach.

I cannot agree with those who believe that extensive gastric resection should be carried out in all cases of gastric ulcer. The conservative operations which my colleagues and I have performed in these cases have given satisfactory immediate results, and the ultimate results have been better than those obtained by almost any other operation for gastric lesions. For some unexplainable reason, jejunal ulcer practically never occurs when gastro-enterostomy is performed in these cases of gastric ulcer.

In the treatment of gastric ulcer, the possibility of malignancy enters into consideration. Although it is usually possible to distinguish between benign and malignant ulcers, still it is often difficult to feel certain that one has done so. For this reason alone, gastric ulcers should always be excised. In this connection, however, it is interesting to note the recent report of 100 cases studied by Balfour, in which gastro-enterostomy only was done for gastric ulcer. In view of the fact that it has been the policy at the clinic to remove gastric ulcers whenever it has been possible to do so, this means that gastro-enterostomy was carried out in those cases in which removal would have been difficult and hazardous, and in many of the cases the lesion was considered irremovable. Many of these patients were completely relieved of their symptoms. In the 100 cases, the gastro-enterostomy had been done ten or more years previous to the time the study was made. The operative mortality in this series of 100 cases of inaccessible gastric ulcer was 3 per cent. In 24 per cent, gross hemorrhage had been reported, and in 63 per cent some degree of obstruction had been present, in spite of the fact that neither the lesion nor the induration about it involved the pylorus. Seventy-nine per cent of the patients, five years or more after operation, were relieved. In 17 per cent the result was poor.

This experience seems to show that gastro-enterostomy affords the most complete protection against perforation and obstruction. The possibility of carcinoma developing in the unremoved lesions is most important. In six of these 100 cases such a sequel was established or suspected. Although this is a small proportion of the cases, nevertheless it does establish the fact that gastric ulcer should be removed when it is possible to do so satisfactorily. Balfour feels that the outstanding fact in this study of 100 cases of gastric ulcer, in which gastro-enterostomy alone was performed, is that an indirect operation alone can be depended on to give a high percentage of good results in cases of gastric ulcer in which removal of the lesion by any method is difficult, and in which partial gastrectomy is associated with prohibitive operative risk and unwarranted sacrifice of the stomach.

SUMMARY

In this paper I have given a report of experience at the clinic with conservative surgical treatment for duodenal and gastric ulcer. In many cases the radical procedure of resection of a considerable part of the stomach has been done. In these cases it was felt that there was a special indication for radical resection. The results of resection of the stomach give a higher mortality with no better ultimate results. Secondary ulcers form in or near the stoma following resection for ulcer in about the same proportion of cases as that in which they form following gastro-enterostomy. If there is any question as to the nature of the gastric lesion, resection should be carried out. Or, if the gastric ulcer is a large perforating lesion, then resection frequently can be carried out with less operating than is required in performing excision and gastro-enterostomy.

In conclusion, it must be said that the results of conservative operations are satisfactory and that radical operation should be done only in those cases in which there is some special indication for doing so.

BEHAVIOR DISORDERS IN CHILDHOOD AND THEIR RELATION TO THE PEDIATRICIAN*

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DETROIT

Studies in the comparative anatomy of the central nervous system have demonstrated an evolutionary process extending from the lowest forms of the animal kingdom, as exemplified by the spinal cord reflex animal, the Amphioxus, through complex gradations, to reach the most complicated form of all, the Homo sapiens. Paralleling these anatomic alterations, there has been an analogous change and development in neural activities and functions. These lower forms of animal life transferred the environmental stimuli directly through the affector or receptive neurone to the effector pathway, to produce a response. Thus, the organism was enabled to withdraw from an unfavorable environment in which the thermal condition might be unsatisfactory. Food was ingested by enveloping the morsel at the receptor of the gastro-intestinal tract, when the particle came into contact with the organism. This instinct of self-preservation is common to all forms of animal life. Similarly, the reproductive instinct, or the drive for species or race preservation, finds beginning. As the central nervous system evolved, more complex activities developed. Further neurone anastomoses, ascending association paths, the formation of mid-brain structures which began to exert their vegetative functions—all increased the number and complexity of response. Finally, with the invaginations and the outpouching of the primitive neural tube, the fore-brain originated, carrying the higher cortical activities—memory, apperceptive qualities, discrimination, judgment, etc. The primitive instincts of race and self-preservation still exist in this phylogenetic process but are curtailed and repressed by our civilization. As a result, many of these fundamental. basic urges find inadequate and socially unacceptable expression. Many are relegated to the "storehouse of forgotten memories," or the so-called unconscious, in which these conflicts withdraw energy, to break forth later in some physiological or functional aberration. The neuroses, so common to all branches of medicine, result from this conflict between the deeper instinctive urges and strivings of the individual and their incomplete, dissatisfying expression. Every stimulus leaves its impression accompanied by its resulting response. If repeated sufficiently the reflex arc becomes firmly ingrained and an automatic movement or habit pattern becomes established.

This evolutionary process evidences itself in the social order, going from the primitive customs and tribal life of the savages up to the present time. Primitive savage life, although it was elementary and essentially individualistic, still had its restrictions and taboos. Certain acts were recognized as being anti-social and as menacing to the group. Any object that touched the tabooed object was itself rejected. This was largely due to the fact that each individual unconsciously had similar instinctive desires, which the group had learned to harshly repress in order to protect each member from himself. The evolution of the nervous system and a study of primitive tribal customs and practices have revealed similar trends and goals in modern life. The difference rests in the greater restrictions of civilization, with the attendant customs, conventions, and inhibitions. The higher the cortical development, the greater the self-inhibitory tendencies. The deteriorated, psychotic individual who regresses to an infantile or animal state has lost his cortical inhibitions and the basal and lower reflex centers operate reflexly just as in the lower forms of animal life. Alcohol, which paralyzes the higher centers and reduces cortical inhibitions, acts similarly.

The human embryo recapitulates the physical history of the animal species as evidenced by the gill clefts, the cloaca, etc. The inner life of the child, when born into the world, carries with it, as well, the archaic patterns and instincts of the animal kingdom and that of his own species—his racial heritage. The newborn manifests his sucking instincts first, to satisfy hunger; he

*Paper presented before Section of Pediatrics, Michigan State Medical Society, Benton Harbor, September 16, 1930.

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avoids painful stimuli, and responds to pleasurable sensations. Children are akin to the primitives who believed in gods, demons, and magic. Their phantasy power, their credulity, their ready acceptance of mythological beings, are image reflections coming up from those deeper levels of the primitive past. The imaginary conversations and day dreams furnish the material out of which they can compensate for failures. They also furnish a haven for retreat when reality becomes too difficult. Undesirable associates, sensitivities about bodily defects, unfavorable rivalry, can all be eliminated by this flight from reality. Fears, hates, rebellion, all find outlet here. It is in these early years of life that habit patterns, attitudes, ideals, and attributes of personality are ingrained. The child is self-centered and is essentially an anti-social being who attempts to dominate his environment to gain attention. He often is in a position of hatred to the world about him. This hate may manifest itself as obstinacy when it cannot be expressed. He may react with stubbornness if his pleasures are disturbed. This stubbornness may be hidden by an excessive docility. Defiance of authority and active, retaliative measures are set up when the environment does not let him express his inherent desires in a socially acceptable manner.

It is futile to attempt to clearly demarcate a range of normalcy for child behavior. Granting that there is no badly tainted ancestry and the environment is reasonably satisfactory, what common characteristics exist? Activity of the motor system, a complete freedom of movement, is imperative to establish organic connections in the nervous system. Imitation is another trait which can obviously be ascribed as "normal." Suggestibility, a subtle form of imitation, is considered characteristic in children. When an extreme absence of suggestibility exists so that there is complete resistance or negativism to the environment, there is present a cardinal sign of a grave mental disorder. This is especially true when a complete absence of suggestibility is found in adults. Too great a degree of vacillation, or suggestibility, is on the other hand obviously pathological. Attributes of an integrated childhood include curiosity, love of approbation, play activity and a richness of the phantasy life. Organic adjustments are necessary as well in terms of bladder and bowel control, feeding and sleep habits, etc.

Child research has brought out interesting phenomena of behavior. It is well to consider the wide variation between infants' development in order to avoid forcing children when they fail to come up to preconceived standards. On the other hand organized inquiry has failed to clarify the problem of normal mental growth, so that often too little is expected of children. According to Gesell, it is feasible to provide an uncomplicated, free environment where the child may have ample opportunity to obtain what his developing impulses prescribe. There are differences in the quality as well as quantity of children's achievements. Individual differences should be recognized and the common discrepancy between the mental and physical development of the child should be taken into consideration. An opinion as to the mental age of the child which is based on observation of size, age, or appearance is untenable, as well as often being definitely injurious. Steadiness of effort, evenness of disposition, sound judgment, and well expressed emotions ultimately yield greater success than inherent intelligence. Since much of the infant's early development has to do with bodily control, which is taken for granted, the psychic activity that develops is disregarded or not understood.

Parents often try to compensate for their own earlier educational deprivations by forcing their children into scholastic activities in which the latter may have special psychological disabilities, so that resulting conflicts arise in the child-parent relationship. Again, there are parents who attempt to develop their children in activities in which they themselves excel, not realizing that the child may have other interests offering him greater personal satisfaction. It is from the early relationship with parents and members of his immediate environment, that the child's inner life takes direction widely shaped by his own innate tendencies.

The pattern of early home life is carried into adulthood and the emotional tie with the family determines later mature reactions. "The fabrics are woven by the parental attitude." Many problems of a child's maladjustment which affect his physical well-be-

ing, can only be treated through an understanding of the emotional difficulties of the parents. In the stress of a busy practice the pediatrician often can only take the time to examine the child and leave recommendations to be carried out. Sometimes this is done without determining how far the symptoms of the child have originated in some dissatisfying, emotional relationship with the offending parent. It is notoriously true that many cases seen by the practitioner are on a psychogenic basis without any demonstrable organic origin. With repeated dysfunction many conditions become secondarily pathologic from the organic standpoint. The relation of hyperthyroidism or gastric hyperacidity to the emotions is common observation.

Preventive medicine has been stressed in the past few decades. Such problems as housing conditions, proper diet, rest, fresh air, sunshine, etc., have been emphasized. One may liken an understanding or diagnosis, if you will, of the emotional relationship of the child with his immediate environment, to the isolation of an organism of an obscure, infectious disease, in which as effort is being made to establish the technics of prevention.

It is because of the belief that the study of the emotional life of the child sheds light on the prophylactic aspects of adult mental disorder, that much impetus has been given to the so-called "child guidance movement" in the past decade. This term is somewhat of a misnomer, as the parent in the majority of the cases is the primary factor to be considered. These child guidance clinics began in 1921 on an experimental basis in connection with the juvenile court system. The first maladjusted child to be studied in any organized way was the delinquent, whose social relationships had brought him into conflict with the law. Frankwood E. Williams states that "from a comparatively simple type of organization connected with the juvenile court, the clinic has become a highly organized coöperative community enterprise with extensive ramifications in all parts of the community that have to do with child life." The Commonwealth Fund has established several clinics in the larger cities and after a satisfactory demonstrative period the communities have taken over these clinics. The integration of four fields, the sociologic, the psychologic, the physical, and the psychiatric, offers the nucleus for this child guidance study.

The bases for behavior disorders in childhood are found on occasion in organic causes, a sphere in which the pediatrician can make invaluable contributions. These problems can be classified from the organic point of view, for purposes of simplification, according to the actual disease present, the resulting deformity, and the physiological imbalance produced. Conversely, gross organic pathology may cause inner psychic difficulties. A child with a physical defect may become sensitive and excessively shy on account of his deformity, and as a result he tends to withdraw into himself. A child may be forced to remain in a constant state of immaturity by an overly solicitous mother. The parent may have been conditioned by an earlier grave illness of the child into a morbid state of anxiety about the child's bodily health. This type of mother offers difficulty in carrying out an objective, rational regime of treatment because of her abnormal fear. A simple physiological complaint often looms forth as a portentous illness to such a mother. Children with low grade focal infections are occasionally restless and their threshold for self control becomes lessened. Chronic nasal obstruction, long standing infectious diseases, intestinal parasites, deficiency disorders—all contribute to a child's apparent indolence and dulness. There has been increasing emphasis to determine the possibility of an early encephalitic process existing in certain cases of behavior disorder, following acute infectious diseases. In encephalitis, in addition to the sleep disturbance, visual disorder, and continued pyrexia, frequently there are changes in the emotional spheres, appearing permanently as sequelæ. Children become unstable, pugnacious, and irritable, as a result. How much this change in personality is a result of the actual cerebral pathology, or of the mismanagement and overindulgence of the child by worried parents during the chronicity of illness, cannot actually be determined. Some children with chronic encephalitis have definitely realized that they can use physical illness as a subterfuge to domineer the family and to satisfy every whim.

Certain physical conditions produce many more or less characteristic mental attitudes. Patients with pulmonary tuberculosis often feel excessively optimistic, especially when they may present a false picture of health and be without pain or great discomfort. Epileptics show egocentricity and personality changes. Children with defective hearing occasionally have ideas of reference. They assume that people are talking about them because they do not understand what is being said. There is a subtle type of deafness for special tones only. These are known as "islands of deafness," and are diagnosed with the aid of an audiometer. Certain sounds are not heard through ordinary clinical tests. Visual defects likewise are etiological factors in causing maladjustment.

Chronic or reflex irritations contribute to the somatic basis of behavior disorders. Phimosis, itching around the rectum, tight clothing, etc., participate in causing restlessness and hyperactivity. Often cerebral birth trauma is responsible for clumsiness and slowness of movement in a child, which may result in sensitivity and cause truancy from school because he cannot compete with other members of his class. Endocrine disorders have been given some emphasis as etiologic factors in producing inner psychic difficulties. In a relatively few cases mental torpor can be ascribed clearly to a condition of hypothydroidism. There have been rare, isolated cases of stealing to satisfy an excessive desire for sweets on the basis of a pituitary neoplasm. In the Froelich syndrome, the absence of the secondary sex characteristics and the establishment of those of the opposite sex has occasionally resulted in the formation of sex anomalies, such as homosexuality. A persistently low blood calcium has been described in the literature in many cases of hyperactivity.

Through the work of Dr. David M. Levy of the Institute for Child Guidance, a method of integrating physical and psychiatric examinations has been devised. This is work of practical significance to pediatricians, as well as to psychiatrists, to utilize a means of gaining rapport and of acquiring the confidence and coöperation of the patient. With the technic of the physical-psychiatric examination, the pediatrician can offer a more sympathetic understanding and obtain a deeper insight into his patient. Dr. Levy concludes that, "by taking advantage of rapport established in the physical examination of children, an interview can be developed to follow that procedure, which incorporates phases of the psychiatric study dealing with the child's verbal response to his own body; in terms of anatomic variations; height, weight, strength and appearance; body growth and maturity; and finally knowledge of sex difference, and sex activity." However, relatively few cases of behavior disorder can clearly be demonstrable on a physical basis alone.

The second approach to mental hygiene is through the field of psychology. This point of view sheds light on the intelligence, special capabilities, and disabilities, educational achievement and vocational trainability of the child. As a result of the work of Dr. Orton, increased attention has been brought to the phenomenon of left-handedness. The handed side is lateralized to the opposite half of the cortex. With efforts to make the child right-handed, emotional conflicts may result in attempting to overcome a naturally endowed faculty of writing. Often these children with an innate left-handedness become "mirror writers," and rate lower in educational achievement because of emotional blocking when they are forced to use their right hands. Certain of the speech defects similarly show a relationship to the question of handedness. The speech center in right-handed individuals is in the so-called Broca's area, confined to the posterior part of the second left frontal convolution. Occasionally a child stammers when forced to become right-handed because it is assumed that the speech center must lateralize to the cortex of the handed side. The psychological approach, so briefly described, is a second phase of the complete study of the child.

A thorough social examination or history is necessary as an integral part of the "total investigation." This phase delineates the point of view of others regarding the patient, as well as defining their emotional attitudes toward him. The patient's experiences are described even though he is unaware of their significance. One of the most important elements of early normal development is a sense of security in the child's social and feeling relationships. It is because of this lack of security that the "broken home" is one of the most signifi-

cant causative factors producing later emotional instability. Such social pathology as gross neglect by parents, exposure of the child to crime and sex trauma, poverty, alcoholism, parental discord, illegitimacy, frequent changes in habitat, etc., are all noted in the history to determine their relationship with the problem. The most severe cases of sociologic pathology offer the most obvious treatment plan. It is in those cases where the environmental factors are less significant that the approach is fraught with more difficulty. It is quite impossible at times to differentiate between a dull child, who is repressed by his environment, and an early schizophrenia case, who might be inaccessible. Such disorders of childhood as habit spasms, compulsions, nail-biting, bedwetting, night terrors, temper tantrums, masturbation, etc., challenge the pediatrician who is willing to take the time to probe into the child's social relationships. Often casual inquiry will reveal much significant material.

However, it is in the psychiatric sphere, in which the child's point of view is obtained, that most of the difficulty is encountered. Formerly psychiatry was concerned with the diagnosis and treatment of psychotic individuals already far advanced in the disease process. Such cases often involved institutionalization over long periods. For centuries the insane individual was reviled and thought to be possessed of the devil; again, he was deified and given the homage of a saint or prophet. Out of this chaos and ignorance public sentiment learned to fear and to shun evidences of insanity. It was with a great deal of abhorrence and anxiety that individuals came for advice regarding manifestations of psychosis in their families. This was due to public sentiment regarding hereditary taint and the fear of institutionalization. For this reason psychiatrists were consulted very late in the course of the mental disorder when therapeutic measures were most difficult and sometimes futile in their efforts. However, with the increasing interest in the mental hygiene movement, some of these attitudes happily have changed. In spite of the progress made, we are still in an unchartered sea as to the best technics to be applied to the problems dealing with individuals. It is important, then, to make frequent soundings in this sea to evaluate our methods.

Among some of the concepts which prove of value in understanding the child is the lead suggested by Pavlov regarding the conditioned-reflex. A pleasurable experience can be made distasteful to a child by arbitrarily presenting the satisfying object with one which inspires fear. Again, certain types of problems have been interpreted at times on the basis of the Adlerian concept. This theory explains behavior on the basis of inferiority feelings, and a compensatory expression of power as the directing force in conduct.

A child's initial emotional feelings are directed toward those individuals with whom he is first in contact, namely his parents. A mother may overload her child with affection to compensate for her own earlier deprivation in love interest. As a result the child is not emancipated from her and becomes excessively dependent and blocked in future feeling adjustments. Such a child may labor under a false sense of gratitude to this apparently self-sacrificing parent. This is one of the many intricate, complex possibilities which can only be understood in the light of a detailed study. That sex maladjustment plays an important role in producing emotional difficulties can scarcely be denied. Guilt feelings can sometimes be relieved by releasing the tension through discussion and understanding. Unhappy memories appear as distortions, disturbing the child and upsetting his physiological balance. Conflicting emotions can be understood and finally banished by "reliving" earlier disturbing situations with the psychiatrist—visualizing them and readjusting accordingly. These early, deeply lying conflicts carry a charge of energy demanding release and may be sublimated into a socially acceptable outlet. When repressed they have the power to influence conscious behavior. One of the most difficult parental attitudes to deal with is a fundamental rejection of the child who has been unwanted. The mechanisms of conduct and their ramifications are so numerous that few can be described in detail or even mentioned in a brief time. A dynamic point of view of the patient's life, seen longitudinally as a constantly moving stream, gives the proper perspective. The field of mental hygiene attempts to bring an individual to a degree of maturity so that he can take on the responsibilities of life, without

regressive tendencies, so that he is able to face reality squarely without using any physical symptoms or nervous breakdowns as subterfuges to excuse his failures. The philosophy of mental hygiene is based on the theory that a study of the problems of children offers the best means of prevention of later psychic difficulties. Virchow has aptly written, "Treat not only the disease, treat also the patient."

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THE PHYSICAL AND ECONOMICAL ADVANTAGES OF GYNOPLASTIC REPAIRS FOR OLD LACERATIONS, AT OR SHORTLY AFTER CHILDBIRTH*

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In some of my previous articles,[1] the indications, contraindications, technic, and complications of gynoplastic repairs have been described in detail, so I will limit myself to the discussion of the physical and economical advantages of repairing old and new lacerations of the genitalia immediately or within a few days after delivery.

Childbirth leaves its scar in at least 90 per cent of the cases. There may be only a slight nick in the cervix, a mere prolapse of the cervical mucosa, a tendency to cystocele or urethrocele, a tear or relaxation of the perineum or a tendency to displacement or prolapse of the uterus. But what is the result in a few weeks, months, or years? How many women go through life as semi-invalids, unable to attend satisfactorily to their marital and domestic obligations, become neurasthenics or hypochondriacs, suffer various ailments and disabilities due to the above conditions, which generally become worse, especially after subsequent deliveries?

Dorothy Dunbar Bromly, in an article in Harper's Magazine, June, 1929, which she appropriately entitles "What Risk Motherhood," places a grave charge against the medical profession for the alarming maternal mortality and morbidity, and quotes many leading authorities such as Polak, Williams, DeLee and others. Coming from the lay pen, it behooves us to give this careful consideration. Much can be done to raise obstetrics to a higher standard. If we give the patient the proper prenatal care during pregnancy, allay the pains of childbirth, and send her home from the hospital in the best possible physical condition, with the smallest amount of additional risk, only then can we feel that obstetrics will earn the place it deserves in the eyes of the community.

When I first began the repair of old as well as new lacerations at the time of confinement about fifteen years ago, numerous arguments were proposed against this procedure. First: the *danger of infection.* Concerning this point, it is important to mention that there are several factors that enter into the ideal performance of gynoplastic repairs, namely, that the obstetrician be thoroughly trained in gynecology and in surgical technic, and that the patient be delivered in a well-regulated hospital, suitably equipped, and with sufficient assistants,

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anesthetists, etc. It is a regrettable and deplorable fact that only 10 per cent of our American women are delivered in hospitals. It would be unwise, even impossible, to perform these repairs under any other conditions.

Second: *the edema.* Time and experience have disproven the contention that it is impossible to recognize the tissues at this time because of the edema. In fact, we find that the anatomical parts are more easily separated into their various layers than in the usual gynecological operation.

Third: *lochia.* In the absence of a definite infection, the lochia does not interfere with the healing of the tissues.

Chart 1. Time of Repair of Old Lacerations
(from January, 1922, to July, 1929)

Immediately	Next Day	3rd Day	4th Day	5th Day	6th Day	7th Day	8th Day	9th Day	10th Day	11th Day	14th Day
1044 or 82.5%	11	39	52	51	23	24	11	3	5	3	1

Total.....1267 Cases

Chart 2. Age
(from January, 1922, to July, 1929)

Age	18	19 to 24	25 to 28	29 to 32	33 to 37	38 to 47
No. of cases	1	151	309	384	296	126

Total.....1267 Cases

Chart 3. Parity
(from January, 1922, to July, 1929)

ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv
479	355	192	89	68	29	17	15	11	6	3	2	1

Total.....1267 Cases

Chart 4.

Name	Para	Date 1st Ex.	Delivery	Repair	Subsequent Examination	Remarks	Subsequent Deliveries	Later Examination
M. H.	II	2/10/21 Rel. + + + C + + R. + + + Lac. Ce.	6/23/21 Knee present. 13 Lb. Babe	T. C. P.	3 mo. —— —— —— well healed		4/18/24 L. F. P. H.	18 mos. later in good condition
J. K.	IV	10/2/20 Rel. + + C. + R. + + Lac. Ce.	11/1/20 normal	T. C. P.	5 weeks ± — ± good cond.	Aet. 44 yrs.	9/15/23 Normal delivery. Primary repair of Perineum & Hemorrhoidectomy	5 mos. later genitalia in good condition
R. L.	VII	4/21/19 Rel. + + R. + + Lac. Ce.	6/10/19 normal	T. P.	5 years —— —— good cond.	Aet. 42 yrs.	3/10/24 Normal delivery. Primary rep'r of Perineum	3 mos. later genitalia in good condition

Fourth: *the danger of prolonged anesthesia, hemorrhage and shock.* If the patient is not in good physical condition after delivery, it is advisable to wait 24 or more hours before attempting repair work. This was our original method, but with improved technic and experience, we are able to do over 80 per cent immediately.

Fifth: *interference with future deliveries.* If the patient is not operated until the end of the child-bearing period, as some physicians advise, then irreparable damage is done. Chart 2 shows that women between the ages of 18 and 47 were in need of repairs, and Chart 3 shows the parity of these cases, proving that it is difficult to estimate the probable duration of the child-bearing period. Every day more physicians are realizing that it is no longer necessary or advisable to wait till this is over.

Chart 4 reports in detail three of a long series of operated cases in which the patients returned for a subsequent delivery.

Chart 5 shows the number of cases operated for old lacerations immediately or within a few days after delivery at the Mt. Sinai Hospital, Cleveland, from January, 1922, to July, 1929.

Chart 5. Number of Cases

Years	Cases
1922 to 1927 (5 years)	872
1927	156
1928	171
1929 (6 months)	68
Total from 1922 to 1929	1267
Prior to 1922	147
Total	1414

Chart 6 shows the obstetrical activity during 1926.

Chart 6

Total admissions in 1926		886
Primiparas	373	
Cesarean sections; obstetric complications, as eclampsia, heart or kidney disease; multiparas that did not need repairs or refused to have them done, etc., or had them done at previous deliveries	340	
Total	713	713
Multiparas repaired		173

i.e., 19.5 per cent of total admissions in 1926 were repaired, or 33 per cent exclusive of the primiparas.

Chart 7 reports the types of deliveries which were followed by gynoplastic repairs

Chart 7. Types of Deliveries Followed by Gynoplastic Repairs (from January, 1922, to July, 1929)

Pr.	Sp.	L.F.	M.F.	V.E.	Br.	Dil.C. L.F.	Mac.F. L.F.	Sc. M.F.	Dil.C. M.F.	Bag Br.	Dil.C. V.E.	Twins
17	678	356	67	75	21	8	1	18	6	2	17	1

Total.....1267 Cases

Pr.: Precipitate. Sp.: Spontaneous. L.F.: Low Forceps. M.F.: Mid Forceps. V.E.: Version and Extraction. Br.: Breech. Dil.C.: Manual Dilatation of Cervix. Mac.F.: Macerated Fetus (afebrile). Sc.: Scanzonian maneuver.

Chart 8. Types of Operations (from January, 1922, to July, 1929)

C	T	TP	TC	PH	TCP	TPH	CPH	TCPH	Amp.CP	Caut. Cerv. CP	P 3rd°	Vag.F.
6	123	443	7	32	84	43	13	24	2	2	2	2
P	H	CP	Ac	TH	TPU	TCH	AcP	AcPH	Barth. Cyst.	Caut. Cerv. P	P 3rd°	RV Fist.
374	47	37	2	5	1	5	6	3	1	2	1	

Total.....1267 Cases

C: Cystocele. T: Trachelorrhaphy. P: Perineorrhaphy. H: Hemorrhoidectomy. Ac: Partial amputation of cervix. U: Umbilical hernia. Vag.F.: Vaginal fixation. Barth. Cyst: Bartholin Cyst. Caut. Cerv.: Cauterization of Cervix. RVFist.: Recto-Vaginal fistula.

Chart 9. 111 Private Cases

Condition before confinement and end-results after delivery and repair

3 wk.		1 mo.		5 wk.		6 wk.		7 wk.		2 mo.		10 wk.		3 mo.		4 mo.	
b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a
++	—	+	—	++	—	++	—	++	—	+	±	++	—	+	—	++	—
		++	—	++	±	++	—			+++	—	++	±	+++	—	+	—
		+	—	+	—	++	—			++	—	++	±	++	—	+	—
		++	—	+	±	++	—			++	±	+	—	++	—	+	—
		+	—	++	—	++	±			++	±	+	—	+	—	+	—
		++	±			++	—			+++	±	+	—	+++	—	+++	±
		++	—			++	—			+	—						
											*			+	—	+++	±
										+++	++			+	—	++	±
										++	—			+	—		
										+	—			+++	—		
										+	—			++	—		
										+	—						
										+++	±						
										++	—						
1		7		5		7		1		14		6		11		8	

5 mo.		6 mo.		8 mo.		1 yr.		1½ yr.		2 yr.		3 yr.		4 yr.		5 yr.		6 yr.	
b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a
++	—	++	±	++	—	++	—	++	—	+	—	++	—	++	—	++	—	++	—
+	—	++	—	+++	±	++	—	++	—	+++	±	++	—	++	—	++	—	++	±
+	—	++	—	++	—	++	—	+	—	++	—	++	±	+	—	+	—		
+	±	+++	—	+++	—	+	—			++	±	+	—			++	—		
++	—	++	—	+++	±	++	—			++	±	++	—			+	—		
		++	—			++	—					++	—						
		+	—			+++	—												
						+	—												
						+	±												
						+	±												
5		7		5		10		3		5		6		3		5		2	

Total: 111 Cases

*Patient developed perineal infection with sloughing.
b: Before operation
a: After operation.

+ signs: amount of relaxation.
— sign: no relaxation or perfect results.
± sign: slight relaxation.

and shows that operative deliveries done with surgical care and technic do not interfere with the performing of gynoplastic repairs.

Chart 8 shows the various types of operations done at or shortly after childbirth.

Charts 9 and 10 show the end-results of 111 private cases examined from 3 weeks to 6 years after repairs.

Compare Charts 9 and 10 with a report by Tracy and First.[5] Post-puerperal examination in their clinic of 432 cases, showed a lacerated perineum in 272 cases, or 63 per cent, a laceration of the cervix in 391, or 90 per cent.

During the last few years, I have received letters from numerous obstetricians and gynecologists regarding their opinion of this work. It has been considered ultra-radical by some who are against this procedure on theoretical grounds only, but who admit that they have not had actual experience. Others have given it consideration and are doing a limited amount of repair.

CHART 10. RÉSUMÉ OF 111 PRIVATE CASES

Time after D. & R.	1st Degree Relaxation (or +)		2nd Degree Relaxation (or ++)		3rd Degree Relaxation (or +++)	
	No. of cases	Results	No. of cases	Results	No. of cases	Results
3 wks.			1	1 P.		
1 mo.	3	3 P.	4	3 P. 1 S.R.		
5 wks.	2	1 P. 1 S.R.	3	2 P. 1 S.R.		
6 wks.			7	6 P. 1 S.R.		
7 wks.			1	1 P.		
2 mos.	5	4 P. 1 S.R.	5	3 P. 2 S.R.	4	1 P. 2 S.R. 1 S.I.*
10 wks.	3	3 P.	3	1 P. 2 S.R.		
3 mos.	5	5 P.	3	3 P.	3	3 P.
4 mos.	4	4 P.	2	1 P. 1 S.R.	2	2 S.R.
5 mos.	3	2 P. 1 S.R.	2	2 P.		
6 mos.	1	1 P.	5	4 P. 1 S.R.	1	1 P.
8 mos.			2	2 P.	3	1 P. 2 S.R.
1 yr.	4	2 P. 2 S.R.	5	5 P.	1	1 P.
1½ yrs.	1	1 P.	2	2 P.		
2 yrs.	1	1 P.	3	1 P. 2 S.R.	1	1 S.R.
3 yrs.	1	1 P.	5	4 P. 1 S.R.		
4 yrs.	1	1 P.	2	2 P.		
5 yrs.	2	2 P.	3	3 P.		
6 yrs.			2	1 P. 1 S.R.		
Total:	36	+	60	+	15 =	111
Résumé	Perfect: 85 or 76.5%		Slight Relax.: 25 or 22.5%		Slight Improv.: 1	

*Patient developed perineal sloughing.

D.: Delivery R.: Repair S.I.: Slight improvement
P.: Perfect results S.R.: Slight relaxation

Among these are Holloway of Knoxville, Tenn., Danforth of Evanston, Ill., Eliot Bailey of Brooklyn, N. Y., Tracy of Philadelphia, Penn., King of Toledo, Ohio, Titus of Pittsburgh, Penn., and Royston of St. Louis, who repair the cervix and perineum, and Potter of Buffalo, who repairs only the cervix.

In 1906, Dr. F. H. Stuart,[4] and in 1916, Dr. F. A. Hussey,[3] both of Brooklyn, N. Y., reported work along this line, limiting themselves to the repair of the cervix and the perineum, but they were forced to discontinue their efforts because of inadequate facilities.

There is an increasing number who have become convinced, after careful study and trial, that this is a safe and advisable procedure providing that the technic is carefully carried out as advocated. Dr. Wm. Graves, of Boston, Mass., is a strong advocate of early repair, even if there is a possibility of later child-bearing. He says that he becomes more and more convinced that early repair of the cervix will prevent many cases of cancer.

Among those who have had considerable experience and are enthusiastic about their results are Polak of Brooklyn; Friedlaender, Rothman, Kirschbaum, all of Detroit;

CHART 11.

Chart 11. Days in Hospital for Delivery and Repair
(from January, 1922, to July, 1929)

No. of Days	4 to 10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25 to 43
Cases	26	24	41	92	220	193	216	181	115	49	28	29	21	12	4	16

Total.....1,267 Cases

The average stay in the hospital during 1928 for delivery and repair was 15.3 days, just one day more than the usual stay for a delivery or a gynecological repair.

Chart 12. The Economical Phase of Gynoplastic Operations

	per day	for 2 weeks	1414 cases
Average cost at Mount Sinai Hospital	$7.50	$105.00	$148,470.00
Average charge for gynecological operation		75.00	106,050.00
Average cost of extra help, husband's loss of time, and other incidental expenses		75.00	106,050.00
	per year	for 4 years*	
Average cost for gynecological treatment for old lacerations and resultant complications	$15.00	$60.00	84,840.00
Total			$445,410.00
Average extra charge for repair after delivery	$25.00		35,350.00
Amount saved by community through GYNOPLASTIC REPAIRS			$410,060.00

*There were no exact data to figure on. Many patients would have had treatments for 10 or more years. Others might have had very few treatments. Therefore, we figured that four years would be a fair and conservative average.

Reinberger, P. W. Toombes, W. T. Pride and their associates of Memphis, Tenn.; Boyes of Kalamazoo, Mich., Rongy of New York, and Hoffstätter of Vienna.

ECONOMICAL ADVANTAGES

Numerous articles have been written lately by physicians, economists, and sociologists on the high cost of medical service. The government has also started an intensive five-year survey on medical costs.

E. A. Filene[2] states that "the high cost of sickness, at least among the middle classes, is as potent a cause for social unrest as poverty among the poor. Many lives have become twisted and warped by the financial burdens of illness."

Most of the patients included in our series of 1,414 cases operated at the Mount Sinai Hospital during the past 13 years were of the working classes or were dispensary cases, and, though they had suffered for years from old lacerations, could not be induced to enter the hospital for repairs on account of their large families, the expense, the help problem, and the fear of the operation. By doing the necessary gynecological repairs at the time of confinement, it has been possible to put these patients in much better physical condition, and at the same time not prolong their stay in the hospital to any great extent, as Chart 11 will demonstrate.

Chart 12 shows the indubitable saving to the community of at least $410,000,000 during the last thirteen years.

Since we started doing gynoplastic repairs, our gynecological work both in public and in private wards has become almost nil among the patients we have delivered.

Summarizing the physical and economical advantages of gynoplastic repairs, we claim that:

1. It is a sound procedure,
2. The patients are saved the possibility of years of invalidism,
3. Their stay in the hospital is not unduly prolonged,
4. They leave the hospital in the best possible physical condition,
5. They are saved the extra trouble and expense incidental to a return visit to the hospital for repair work.

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THE DIAGNOSIS AND TREATMENT OF ACUTE OSTEOMYELITIS IN CHILDREN

GROVER C. PENBERTHY, M.D., F.A.C.S.†
DETROIT

Osteomyelitis is an inflammatory disease of the bone. The two general clinical classifications are "acute" and "chronic." It is one of the most serious diseases of childhood. First: because of the possibility of septicemia; second: because of the frequent and permanent crippling result and, third: because of the frequent long convalescence that may follow even with the most skilfull medical and surgical management.

Clinical observations indicate that it is most frequently seen in city children among the poor, although it is found in children living in the rural communities. In this paper reference will be made to a series of 72 cases* classified as acute osteomyelitis which were studied under my supervision during the years 1927, 1928 and 1929. In this study it is observed that the average age was between 6 and 7 years, the youngest one month, and the oldest 12 years. The incidence of the disease decreased as they approached maturity. Sixty-one per cent were males and 39 per cent females; 90 per cent were white, and 10 per cent colored.

ANATOMY

In discussing this condition the long bone is given chief consideration, and in order to understand bone pathology some mention must be made of the anatomical structure. The shaft of the long bone is referred to as the diaphysis, and at one or both ends is the epiphysis. The structure is made up of compact and cancellous bone, periosteum and marrow. That part of the diaphysis near the cartilage, which is between the shaft proper and the epiphysis (juxto-epiphyseal) has been called by Lexer the "metaphysis." The metaphysis or cancellous portion is the most vascular since it is the growing portion of the long bone; it is also the common site for the development of acute osteomyelitis. The periosteum surrounds the entire bone except at the articular ends and is a fibrous membrane, containing blood vessels that enter the haversian canals and communicate with branches of the nutrient artery. The branches of the nutrient artery pass through the marrow and supply the deeper layers of bone. Another source of blood supply is from the cortical vessels in the epiphyseal cartilage.

BACTERIOLOGY

Osteomyelitis is a blood-borne infection, which fact has been confirmed by clinical and laboratory study. The source of the infection can often be traced to infected lesions of the skin (Phemister), or to lesions elsewhere in the body. The following information is listed in the histories of this series: Blister on foot; boil one week ago; abscess left chest; infected umbilicus and hand; otitis media; tonsillitis; multiple abscesses, etc. Cultures taken at operation of these cases showed the following organisms when the culture was positive: Staphylococcus pyogenes aureus, 36 per cent; staphylococcus pyogenes albus, 21 per cent; streptococcus, 7 per cent; pneumococcus, 3 per cent; and diplococcus, 3 per cent. Many cultures taken were reported as showing no growth. A small percentage showed positive blood cultures. Pasteur, in 1870, showed that the germs in boils were the same type of germs found in osteomyelitis.

Clinical observations show that the virulence of the organism and the general physi-

*From the Surgical Service, Harper Hospital and Children's Hospital of Michigan, September, 1930. Read before the Pediatric Section, Michigan State Medical Society.

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cal condition of the child may influence the extent of the lesion. The history of a child sick with osteomyelitis often reveals the fact that there has been some preceding infection or debilitating disease. Faulty habits of eating naturally predispose to malnutrition. For example, a physician relating the history of his boy's illness which was diagnosed as osteomyelitis remarked that the boy had been a feeding problem from birth. Another fact which influences the disease is the season; 22 per cent were ill in August, 14 per cent in September, and 12 per cent in July. The greatest number entered the hospital in the late summer. Low grade infections predispose to abscess formation or superficial cortical involvement and do not extend up the shaft but may metastasize, a process appearing as an abscess in some other long bone. Thirty-three per cent of the cases in this group showed metastasis.

PART PLAYED BY TRAUMA

Trauma must play a part as an etiological factor, as it was reported in 40.5 per cent of the cases. Some of the accidents referred to, and the bone involved, were as follows: Hit on lower left leg, left tibia; fall on the left knee, left tibia; hit by baseball one week ago, left radius; skating and fell on knee, left tibia; fell on knee 6 weeks ago, left femur; fell and injured left knee, left femur; fell on right shoulder, right humerus; twisted ankle one week before, left tibia, etc. The injury may be a direct blow or a twist near the joint. The bones affected in this study reveal the following: Left tibia, 21 per cent; left femur, 18 per cent; right tibia, 17 per cent; right femur, 14 per cent; humerus, 7 per cent; left fibula, 6 per cent; right and left radius, each 4 per cent; metatarsals, 3 per cent; clavicle, 3 per cent; os calcis, 3 per cent; mandible, 2 per cent; and ulna, rib and ilium, each 1 per cent.

To quote from the work of the late Clarence Starr: "Trauma will lower the vitality of the part injured and render it more susceptible to infection. The offending organism carried by the blood stream reaches the finer capillaries in the juxta-epiphyseal region of the long bone. If the general resistance of the individual has been lowered and the local resistance has been reduced by some trauma an infective process is begun and a small inflammatory area in the cancellous bone near the epiphyseal line results." The infection originates in nearly all cases at the metaphysis, very few being found in the center of the diaphysis. Lexer believed that the reason for this localization was mainly mechanical and that circulating organisms were apt to be delayed in the loops and the sinuses in the metaphysis.

PATHOLOGY

Wilinski has attempted to arrive at something definite as regards the end-results of acute osteomyelitis from a roentgenographic study. He concluded that the process is a thrombo-embolic phenomenon with the development of a pathological process which is characterized by a thrombo-arteritis or a thrombo-phlebitis and necrosis of the bone cell and tissue. It is apparent from his study of the anatomical, pathological and clinical facts of the tissue that either the nutrient artery or one of its branches becomes occluded. My observations verify this fact, particularly when the pathological process has been found to have progressed in spite of what was thought to be early adequate drainage at the apparent site of the disease; destruction of the whole or half of the diaphyseal shaft has occurred in some instances.

Stripping of the periosteum as shown by Gallie will interfere more or less seriously with the circulation of the bone, depending upon the size and number of blood vessels destroyed. Robertson and Gallie have also shown that in stripping of the periosteum over even small areas of the shaft of the bone of animals, coagulation in the haversian canal occurs to a considerable depth and the lacunar cells which derive their nutrition from these vessels become necrotic and slowly disappear. The superficial necrosis they have shown is by no means extensive and usually gives rise to no clinical symptoms, as the circulation is rapidly re-established and the necrotic bone quickly absorbed and replaced by normal bone. Gallie has further shown that there is not a re-establishment of the circulation in these necrotic areas of bone in the presence of sepsis, and no invasion by the osteoblasts from the neighboring living bone. If the drainage of pus is sufficiently free to allow the acute inflammation to subside and so terminate the spread of the destruction of the circulation the residual septic irritation along the edges of the necrotic bone stimu-

lates the osteoblasts in the surrounding living tissue to greatly increased activity.

SYMPTOMATOLOGY

The outstanding subjective symptoms of osteomyelitis are pain and inability to use the extremity or to walk if the process is in one of the long bones of the leg. The outstanding objective finding is tenderness at the point of disease and this is most often near a joint. Where tenderness is localized in one particular bone, suspicion should be aroused at once as to the possibility of acute osteomyelitis. The pain suffered by these little patients must be excruciating, and if seen early they usually remember the approximate time of the sudden discomfort. The pain and tenderness is all out of proportion to the clinical evidence and is due to the extreme tension within an unyielding tissue. Unfortunately, when this pain subsides, due to early perforation of the cortex, the clinical picture is often misleading and surgical interference may be unfortunately delayed. During the period of this apparent improvement, the pathological process continues to progress. After perforation of the cortex, there is local swelling and redness, combined with tenderness along the shaft of the bone. The adjoining joint may also be swollen, due to possible effusion or an accompanying suppurative process associated with an osteomyelitis of the epiphysis. Manipulation of the joint near the site of osteomyelitis is usually possible without much discomfort, providing it is done gently. The clinical picture of early sepsis manifests itself with fever and may be initiated with a chill. The temperature ranges from 102° to 104°, and is associated with a rapid pulse, malaise, headache and sometimes vomiting. The child looks sick and because of the overwhelming toxemia important symptoms previously mentioned may be masked. Delirium, stupor, and even convulsive seizures may be observed. With perforation into the subperiosteal space the temperature may drop and improvement be observed in the general condition; however, this improvement is but temporary.

BLOOD PICTURE IN ACUTE STAGE

The blood picture during the acute stage usually shows a marked leukocytosis and a definite increase in the polymorphonuclear cells. The blood counts in some of the series were reported as follows:

Total white cells	Polymorphonuclear cells
18,500	82%
30,250	85%
36,900	77%
28,000	86%
39,300	76%
34,000	81%

X-RAY OF LITTLE VALUE

The X-ray findings in the acute stage are of little value. Unfortunately for the patient, many physicians depend too much upon X-ray evidence in making a diagnosis of bone lesions. It is true that X-ray examination is essential in the successful diagnosis and treatment of bone diseases if changes are present; however, in the early stages of osteomyelitis the changes are not sufficient to alter the bone detail. At the end of four or five days irregularities or a fuzziness may be seen at the epiphyseal line on the diaphyseal side, seldom on the epiphyseal side. Also there may be decreased density near the point of greatest tenderness (this finding may be observed better with a magnifying glass). Later the decalcified moth-eaten appearance of the bone, or the circumscribed shadow of an abscess, reveals the site of the pathology. Early study of the X-ray film with the roentgenologist is important.

The physician's knowledge of the history and clinical findings offers to the roentgenologist valuable information which should assist in the correct interpretation of the X-ray appearances. Too often a negative report, as regards early bone pathology, is returned, simply because no clinical data accompanied the patient, when osteomyelitis was suspected. The technic of X-raying the bones for the best possible bone detail is another important factor. The X-ray examination should include the opposite limb in the film for a comparison as an aid in the proper interpretation of early bone involvement. The age of the patient and the duration of the disease are also facts important for the best judgment of the technician in determining the time of exposure and proper development.

DIFFERENTIAL DIAGNOSIS

The early diagnosis of acute osteomyelitis requires careful analysis of the differential points in diagnosis. On the other hand the subacute and chronic stages of the disease are much easier to classify, having the clinical as well as the X-ray evidence to assist in the classification. The question of

pain near a joint has already been mentioned; such pain combined with tenderness often leads one to suspect an acute arthritis or rheumatic fever. Rheumatic fever is seldom monarticular and it is quite impossible to manipulate a swollen, hot rheumatic joint without evidence of severe pain, while the joint near an acute osteomyelitis can be moved, if manipulated gently; the constitutional symptoms are also more pronounced in acute osteomyelitis. An acute suppurative joint or bursitis can be eliminated by aspiration and bacteriological examination of the fluid. Gonorrheal arthritis should easily be eliminated by the absence of a history of gonorrhea and clinical evidence. Fractures of the green stick type present local symptoms not unlike osteomyelitis; absence of temperature and constitutional symptoms, supplemented by X-ray evidence, makes clear the diagnosis. An acute osteomyelitis of the neck of the femur presents a clinical picture closely resembling that of an acute suppurative hip joint. The leg is usually held everted and abducted, resembling the clinical picture of a fractured neck of a femur. The diagnosis may be difficult to make, although with an acute suppurative joint there is usually more pain on motion and more noticeable muscle spasm. Aspiration of the hip joint should be done if one is doubtful in the differential diagnosis between a suppurative hip joint and an osteomyelitis of the neck of the femur. Where the cortex of the neck has perforated there is an associated suppurative joint. Rectal examination should always be done where bone inflammation is suspected about the hip joint or pelvis.

A localized cellulitis often closely resembles osteomyelitis at the stage of perforation. The local swelling with induration and evidence of a break in the skin and absence of bone tenderness assists in determining the true condition. Cellulitis of metastatic origin may not be as easy to differentiate. An epitrochlear adenitis with suppuration may easily be mistaken for an osteomyelitis of the lower end of the humerus. This condition usually reveals the avenue and entrance of infection in the finger or hand.

Erysipelas may present evidence suggesting bone inflammation but it is usually differentiated by the presence of the characteristic erythema seen in erysipelas. Erythema nodosum not infrequently is mistaken for osteomyelitis. This condition may be differentiated from a bone inflammation by the absence of severe constitutional symptoms and no bone tenderness. Scurvy should easily be differentiated after careful consideration of the history, physical examination and X-ray findings.

TREATMENT

The treatment of acute osteomyelitis is essentially surgical and the earlier the diagnosis can be made and drainage instituted the better is the prognosis. That these patients are seriously ill should be borne in mind. Although proper and adequate drainage is important, it is unwise to attempt too much surgery; a few drill holes and the removal of that portion of the cortex between them over the site of the acute process many times suffices. The holes should be in the cancellous portion of the diaphysis near the epiphysis, because, as I have stated, the early process usually begins in the metaphysis. The operating period should be as short as possible, consistent with good work. The anesthetic of choice is gas-oxygen and the surgery should be done under tourniquet control. A plaster dressing is advised to immobilize the joint above and below or a Thomas splint with fixation may be used. The operation may follow a preliminary blood transfusion or the child may be transfused following operation. The fluids are forced and in addition glucose or saline may be given intravenously or subcutaneously, depending upon the needs and condition of the child. The time period for an acute process to extend and involve the medulla may be very short. Some cases admitted and operated upon less than a week after the onset of acute symptoms have shown medullary involvement necessitating the opening of the canal. A mistake often made is simply incising the periosteum and not drilling into the shaft. The finding of subperiosteal pus means that the cortex has perforated and it is doubtful if this perforation allows of adequate drainage.

The type of drainage material varies with the condition found. The usual practice is to wall off the drained area along the wound edges with paraffin vaseline gauze. Dakin's tubes are then placed at the bottom of the wound, after which it is packed with vaseline paraffin gauze. This packing is not disturbed for several days or longer after

the "Orr Method" unless the child's condition or chart suggests the possibility of hemorrhage, inadequate drainage or retention. "Dakinization" of the wound may be started several days after operation. The drainage provided after an early diagnosis, combined with good surgical after-care, may be sufficient to carry the patient through to a successful termination of the disease with a comparatively short period of morbidity. On the other hand, the destructive process may progress and become chronic, necessitating saucerization or later sequestrectomy. The need for subsequent operation depends upon the clinical course and the changes observed in the bone structure after careful "follow-up" roentgenologically. At the Children's Hospital transfer to the convalescent home at Farmington is considered advisable as soon as the condition becomes chronic and the transfer safe.

SUMMARY

Acute osteomyelitis is one of the most serious ailments of childhood and is most often seen among poor city children. The infection in blood-borne and usually follows a pre-existing pyogenic infection; the process is a thrombo-embolic phenomenon.

Trauma may be considered an important etiological factor.

Early diagnosis, after careful consideration of the history and clinical findings, followed by early surgical interference and good subsequent care, combined with the good sense and coöperation of the family, materially improves the prognosis and shortens the period of morbidity.

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BEHAVIOR PROBLEMS OF SCHOOL CHILDREN*

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Before proceeding to the subject matter of today's discussion, I have been asked to comment briefly on recent plans for increased facilities for the study of the child at the University of Michigan. There is being established at the University a program in the field of nursery and elementary school education and child development. The building to house these activities has just been completed and will be occupied for the first time this fall. Children from the age of two to twelve years will be enrolled in the school when it is operating at full capacity.

In addition to the staff for instruction, there will be a corps of full time and part time workers engaged in investigations on the mental, social, physical, and emotional development of the child.

The current trends in this field emphasize the integration of groups of workers from a large number of specialized subject matter fields. We thus find represented, in various centers, workers in the fields of pediatrics, psychiatry, sociology, anatomy, dentistry, nutrition, education, psychology, etc. Time today will not permit me to dwell on the contributions of such an attack upon the problems of childhood.

I have distributed some plans which will give you an idea of the scope of the project. Special equipment is being provided to bring to bear all of the modern tools of investigation in the various fields. The research work will be supported by the University and by gifts from interested foundations.

There appears to be at present a wave of popular interest in the scientific study of children. This interest is attested by the establishment of numerous child guidance clinics throughout the country, by the increasing influence of the juvenile court, by

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research on the preschool child in institutes of child welfare, by movements for parental education, and by an increasing number of individuals devoting themselves to the problems of child development with the resultant increase in the literature devoted to such studies. An examination of this literature reveals a growing emphasis on traits of character and personality.

Evidence that points to the importance of the individual's early life in the formation of habits that may make or mar his future life is accumulating daily. Such evidence suggests the possibility of prevention and control through the application of knowledge gained from a genetic approach to the problems of personality, delinquency, and nervous disorders. There is a feeling on the part of some that studies of this kind concern only the particular individual—the individual who is different, unusual, odd, or so marked by physical, mental, social, or emotional characteristics as to set him apart from the common group of children. Such evidence as is available on the distribution of conduct disorders, on emotional stability, on honesty, and on nervous habits indicates that these problems are the problems of every child, just as are matters of height, weight, intelligence, and educational achievement. These facts stand forth whether the study is made by rating-scale methods, by test methods, or by direct observation of child behavior. Research in this field, then, is not limited in its application to the extreme deviate whose failures are so pronounced as to make them easily observable.

Most of us are interested in some phase of prevention or remedy for problems in the field of social, physical, or mental health. Before such preventive or remedial measures can be employed, however, a precise description and analysis of controlling factors is essential. With respect to most of our problems in the field of behavior we are still in the fact-finding stage. We have not been able to evolve formulæ for the accurate prediction and control of behavior. I should like to spend the major share of my time today in discussing the results of certain methods of attack in the study of undesirable behavior. The first will be concerned with so-called "behavior problems" of children, and the second with nervous mannerisms in the category of tic.

We shall pass by a discussion of the controversial problems involved in whether or not problems of behavior should be considered as largely organic or functional in their origin, or both. Let us content ourselves for the present with a somewhat pragmatic approach to the problem. We shall regard a behavior disorder as a type of behavior which represents a discrepancy between the capacity of an individual for adjustment and the demands that his environment makes upon him for adjustment. The deficiencies in adjustment may be inherent in the heredity and constitution of the child or in the habit conditioning he has acquired in response to his past experiences. It is obvious, too, that the definition of a behavior problem is a somewhat shifting one. Since the social criterion of acceptability of behavior is so frequently involved, in a sense it is theoretically possible to create problems by the adoption of certain attitudes toward given types of behavior. It is obvious, too, that what constitutes a behavior problem in one community or in one district or in one social environment may not be precisely the same as in another where other standards are involved.

If we examine the clinical literature with respect to the problems of behavior encountered in children of the preschool age, we find a list something like this: feeding, authority, nervous habits, fears, speech, playmates, temper tantrums, sleeping, overactivity, fatigue, toilet habits, and a large group of habits of lesser frequency.

If we turn to the problems encountered in school children, we find in the field of conduct such problems as these: Uninterested in school work, cheating, unnecessary tardiness, lying, defiance to discipline, marked over-activity, unpopularity with children, temper outbursts, bullying, speech defects, sex offences, and truancy.

If we turn to other specialized fields of emotional and personal adjustment we might, of course, multiply this list very greatly. With respect to such problems as these we are faced with the desirability or necessity of learning something of the causative factors involved in such behavior and of the possibilities of amelioration through remedial technics.

The definition of a conduct disorder as a discrepancy between the capacities of the individual for adjustment and the demands of his environment gives a clue to the technic

which may be employed in improving the situation.

Dr. Schwartz has described to you already the technic of approach common in organized child guidance clinics. The various specialists attempt in a sense to inventory the capacities of the individual for adjustment and the demands of his environment, list the points of conflict, and then resolve them by appropriate technics. These technics may be concerned with the person, as in the case of remedial physical defects, or mental deviations amenable to psychiatric therapy, or they may involve the manipulation of the environment so that certain stimulating factors are removed, so that the requirements are lessened, or so that new stimuli promoting the desired behavior become present.

It has been my interest to determine, if possible, whether the descriptive factors involved in behavior problems are subject to measurement and whether after such measurement they can be utilized in the prediction of future behavior and in the determination of certain concomitant causative factors.

We speak frequently of the problem child as being one who possesses one or more behavior problems. It is my thesis that all children are problem children, but that they are so in varying amounts and that the number and seriousness of problems fluctuate through a wide range so that measured data tend to give a distribution of children which is comparable to the distribution we obtain for height, intelligence, and a large variety of physical and mental measurements.

This conclusion was arrived at by a study of behavior problems of some three thousand children in the public schools of Minneapolis. Certain schedules were devised for reporting problems of behavior and personality ratings on children. (Speaker illustrates with charts.) It was discovered in the use of these devices that they apparently had some reliability and some validity for the prediction of future behavior. Thus, in the examination of consecutive cases as they were referred to a child guidance clinic, it was found that half of such cases came from the highest ten per cent of undesirable conduct in the general school population. Within the clinical group, it was found that the behavior ratings also gave a ranking which was consistent with the seriousness of the disorder that the child manifested. These particular schedules did not differentiate the shy, emotional, or shut-in types with outstanding success. They apparently, however, differentiated a child who was aggressive in his violation of school discipline and social conventions generally. It was found also in a subsequent analysis of cases that the schedules were predictive of delinquency that occurred after the record had been made.†

A study is now under consideration in which about three thousand records will be analyzed after a period of six years to determine whether behavior ratings made that far in advance will predict later delinquency.

In analyzing the data on problem tendencies, it appeared that there was a slight tendency for the child of handicapped intelligence to have more problems of behavior than the one of adequate intelligence. The relationship was not high, however, and there were numerous exceptions. In general, the child who was retarded in his school work appeared to have more problems than the child who was at grade or advanced. There were some indications that inability to adjust to the demands of the school environment was one fruitful cause for the production of behavior problems. It appeared, however, that in general records made in school were somewhat predictive of out-of-school behavior.

I mentioned that the devices described above did not differentiate certain specialized types of behavior problems. One whole group of such problems is encountered in the field of nervous habits of children. It was possible to devise a method for measuring nervous habits in children through observation so that quantitative records could be secured and so the habits could be related to other factors in the child and his environment.

The speaker first turned to the literature on tics to secure the objective symptomotology which might serve as an indicator of an undesirable nervous condition. Preliminary checks were made of the frequency of occurrence of the various manifestations in normal children. The more frequent ones were then grouped for purposes of observation as follows:

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†A description of the construction and use of the scales may be found in Willard C. Olson's "Problem Tendencies in Children," published by the University of Minnesota Press, Minneapolis, Minnesota.

1. Oral (sucking thumb, sucking fingers, biting nails, or protruding tongue).
2. Nasal (picking nose, scratching nose, or wrinkling nose).
3. Hirsutal (pulling and twisting hair, or scratching head).
4. Ocular (rubbing eyes, blinking eyelids, or winking).
5. Aural (pulling ear or picking ear).

By the very simple expedient of selecting a single category of behavior, watching it for a constant time in a group of children, making a record, and repeating the observations, it became possible to actually get measured data which would differentiate children with respect to the habit under consideration. This procedure also adds to the reliability of the record so that a person can have some assurance that two people would get the same result, or that the same person might get a similar result on another occasion, providing the behavior studied is such as might be assumed to be somewhat constant.

I shall not encumber you with all of the details of the investigation.‡ If we make twenty observations of habits in the oral category, we find that very few children will fail to show such habits and very few will show them on each occasion. The largest number will score about ten and there will be variations between zero and twenty, as we find for most measured traits.

When the records are studied in detail, it is found that girls exceed boys in the number of oral habits and that there are no significant increases or decreases with age during the elementary school period. There is evidence that undernourished children will have more nervous habits than the average child, and that fatigue during the school day tends to aggravate their manifestation. Children with a neurotic family history tend to show slightly more of the habits than the average child, and twins or members of the same family will resemble each other more closely than children chosen at random. All of the findings, I believe, carry suggestions for treatment. Methods of treatment, as well as description, should be subjected to experimental inquiry.

I might go on and multiply similar investigations on the behavior of young children. I believe enough has been said, however, to indicate that behavior problems have a real relation to the field of the pediatrician.

‡For the complete account, see Willard C. Olson's "The Measurement of Nervous Habits in Normal Children," published by the University of Minnesota Press, Minneapolis, Minnesota.

THE DIAGNOSIS OF TUBERCULOSIS OF THE SPINE*

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During the past six years at this institution about 250 cases of Pott's disease have been seen. Among these have been so many late cases that one is impressed with the necessity for earlier diagnosis.

In no region of the body is it more necessary to examine all that is before one's eyes than in the clinical and roentgenological examination of the spine. Spinal symptoms are frequently explainable by lesions elsewhere and spinal lesions often give the most strange symptoms in other parts of the body. As an illustration of this, one cannot do better than present a case.

Case No. 214535.—This patient, a white youth, aged 18, who had been a foundry worker, was admitted to the University Hospital in April, 1929. His chief complaint was of "sharp pain in the abdomen and along the spine." He had been unable to work for a year as during this time he had had numerous attacks of pain, sometimes dull in character, at other times sharp and shooting, in his back, left loin and abdomen; there had been headaches, dizziness, vomiting, fever, night sweats, loss of weight, nervousness and, between attacks the patient was readily fatigued. There was no cough, sputum or hemoptysis. He had been treated by several doctors for "influenza," "septic tonsils," and "goiter."

The patient was admitted to the medical service here and the differential diagnosis considered was subacute bacterial endocarditis, gastric ulcer, perinephritic abscess or Pott's disease. The noteworthy point is that roentgenological studies were made of the urinary and gastrointestinal tracts and of the lumbar spine and they were reported negative, but that, on review in the light of information obtained subsequently, there was no doubt that a definite lesion should have been observed in the intervertebral region of the twelfth dorsal and first lumbar vertebræ. After a short delay, the diagnosis of Pott's disease of this region was proved, partly as the re-

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sult of good lateral X-ray studies centering upon this region.

In tuberculosis we have special reasons for being insistent on this need for wide observation—firstly, because the spinal lesion is metastatic, and, secondly, because of the widespread effects of abscess formation. The latter may track to distant points and give rise to severe constitutional disturbances, especially if secondarily infected.

Let us, then, consider the diagnosis of Pott's disease, clinically and roentgenologically. The classical picture of a patient with a kyphus, muscle spasm, limitation of movement in all directions associated with a history of backache worse at night, chronic cough, loss of appetite, wasting, and perhaps the presence of a psoas abscess or paralysis is *terribly* easy to diagnose; I say "terribly" with intent because it is terrible as indicating a late stage of the disease with a serious prognosis.

The diagnosis of Pott's disease must be made, if possible, before destruction of bone has occurred and before the formation of abscesses. This, then, is the reason why we orthopedic surgeons burden you roentgenologists with so many apparently benign backache cases. We possibly err here on the side of over-roentgenography: it is better thus than to miss early tuberculous cases.

Tuberculosis of the spine has its greatest incidence in the first decade of life, especially at about 5 years of age. It is probably hematogenous, though in children the lymphogenous spread from bronchial or mesenteric glands has seriously to be considered. Of great interest is the knowledge concerning the site of origin of these spinal lesions. Four possibilities are usually given: (1) central, (2) epiphyseal, (3) periosteal, (4) intervertebral disc. In children the frequent involvement of a single vertebra supports the view that in them the disease has its origin in the center of the body or close to the epiphysis; though there is a group of cases where early destruction of the intervertebral disc occurs with equal destruction of the contiguous vertebral bodies.

Many of the children that have been brought to us show the disease far advanced. The explanation in some is probably that the destructive process is a rapid one, in others that parents are negligent or unobservant and in a few that the symptoms and signs were perhaps vague and that the examining physician could not make the diagnosis. All too frequently we are told that the first thing noticed was a lump in the back. The classical story of night cries, fever, pain in the back, anorexia, loss of weight, spinal rigidity may be incomplete and all that the patient presents is some malaise, irritability and unusual fatigue. Careful clinical examination may reveal tenderness over one or more spinous processes, some spinal rigidity and, one hopes, *no* kyphus or abscess. In 28 cases selected at random from our series of children under ten years of age, 16 cases had had symptoms lasting one year or more and 18 cases had kyphus as a prominent symptom. A few characteristic case histories follow:

Case No. 231867.—Female child, aged 10; for one year had pain in right "hip" with increasing tendency to drag right leg. Received chiropractic treatment. No night cries, fever or cough. Has lost 8 pounds. Examination revealed severe right sciatic nerve irritation, marked spinal muscle spasm, complete loss of all lumbar movement but no kyphus. X-ray confirmed diagnosis of lumbar spinal tuberculosis.

Case No. 233898.—Male child, aged 6. About 18 months previously there had been a vague abdominal complaint with pain in the epigastrium unrelated to food. Three months ago a small kyphus in lumbar region was noticed and there has been a change in posture, the body being bent backward and to the right. The kyphus has gradually increased in size but there has been no pain. Advanced tuberculosis was found affecting the third and fourth lumbar vertebræ with psoas abscesses.

Case No. 253366.—Female child, aged 3. For four weeks had been unwell; main feature was general irritability. During last two weeks developed a limp in right leg and was unable to walk. Tires easily. Unable to sit up. Examination showed a very rigid, painful lumbar spine with prominence of the lower spinous processes. Tuberculosis with marked destruction of fifth lumbar vertebra.

In adults we regard the disease as most frequently intervertebral in origin in view of our frequent finding of reduced intervertebral space as the earliest roentgenographic appearance. This of course is followed by destruction of the neighboring bodies.

The bone lesion of tuberculosis is therefore one of osteolysis and is associated with considerable surrounding osteoporosis. The formation of necrotic masses of bone while not characteristic is occasionally seen, such sequestra differ from those found in osteomyelitis in being less dense and having less clear-cut edges—they appear woolly. In the spine the lesion is a single one in most cases and affects two or more vertebræ with derangement of normal spinal alignment chiefly in an antero-posterior direction because of the wedging produced by the greater destruction of the anterior portions

of the vertebræ. Scoliosis due to lateral wedging is not unknown. Multiple lesions though uncommon must always be watched for, especially in patients with an active pulmonary lesion.

Case No. 166707.—White youth, aged 20, was in August, 1928, under treatment in the Tuberculosis Unit of the University Hospital, having tuberculous disease of the lungs, the right epididymis and left wrist. During this time he commenced to complain of pain in the right sacroiliac region. After a week he was examined in the orthopedic department: no limitation of spinal movement was found and there was no muscle spasm. X-ray examination limited to the lumbosacral region was reported normal. The patient was thought to be suffering from low back strain and a light support was suggested. He continued in the Tuberculosis Unit and also continued to have back pain. Three months later he was re-examined by an orthopedic surgeon, at which time there was marked spinal muscle spasm, with rigidity of the lumbar spine. On percussion over the region of the eighth thoracic spinous process, pain was referred to the lumbosacral joint, which was also tender to pressure. A tentative diagnosis of tuberculosis of the lower thoracic spine was made and this was confirmed when X-ray studies were made of the ninth and tenth dorsal vertebræ. A year later a second lesion was discovered (roentgenologically) between the first and second lumbar vertebræ.

Associated with the well advanced cases abscess may develop. These are most often paravertebral in position and give rise to fusiform or lobulated shadows which in old cases show a tendency to calcification within their walls. These abscesses follow the fascial planes along the lines of least resistance and thus are affected by gravity.

There are certain characteristics of the disease peculiar more or less to each region of the spine. In the cervical portion there is a tendency to subluxation; abscesses high up tend to be retropharyngeal and lower down are liable to track long distances along the branches of the brachial plexus. In the dorsal spine, especially in the higher segments, the spinal canal is narrower than elsewhere and it is here that most frequently is found an associated pressure myelitis. Bone deformity, however, plays a very small part in the causation of this complication. The spinal cord is very mobile normally and is extensible so that it is able to adjust itself to the bony deformity. Paraplegia may be of sudden onset, in which case it is usually due to abscess within the canal or it may be slowly progressive and is then more likely to be due to pachymeningitis. The latter form has the more serious prognosis. Abscesses get smaller under treatment.

The commoner abscesses in the dorsal region are paravertebral and mediastinal and give rise to a characteristic fusiform shadow which must be distinguished from normal mediastinal structures. In patients who have been recumbent for a long period such abscesses are just as likely to track anatomically in an upward direction as downwards. While it is true that in the dorsal region there is less movement in relation to the rest of the body than elsewhere, nevertheless the rhythmic movement of the spine in respiration is most marked and, I am convinced, is one of the biggest factors in the accentuation of the disease and the production of the ghastly deformities that this region so frequently shows.

The region of the dorsolumbar junction in adults shows a special liability to the development of Pott's disease and this must be related undoubtedly to the special mechanical conditions that render this region more subject to trauma. Muscle spasm of the erector spinæ is very severe and the pain may be referred to the sacroiliac joint. Because of the relation of this area to the upper abdominal nerve plexuses there may be found abdominal symptoms, so marked as to suggest serious abdominal visceral disease (Case No. 214535).

In the rest of the lumbar spine the posterior deformity is usually largely disguised by the normal lordosis and by the ability of the region to develop compensatory lordosis above and below the lesion. Abscesses from this part of the spine may track backwards into the loin or downwards along the psoas sheath and in the latter situation are often detected in X-rays by deviation of the lateral border of this muscle. In the lower lumbar spine there is an increasing liability to cause pressure upon the peripheral nerves with resulting symptoms of sciatica.

In the investigation of unexplained cold abscesses one must look far and wide for the bone focus and not until every possibility has been exhausted should one venture to suggest abdominal lymph glands as the origin. In this connection one should not omit the study of the transverse and spinous processes, the laminæ and ribs.

The liability of cold abscesses to rupture onto the surface of the body is well known; the result is an almost immediate superimposition of a secondary infection with pyogenic organisms. This complicates the clinical picture and produces roentgenological alterations. These changes depend largely upon the virulence of the invading

organisms and, where this is of low grade, seems to be associated with a more marked sclerotic reaction and the development of spur formations at the anterior and lateral aspects of the bodies which, under favorable conditions, aids in the healing of the disease. It is useless to expect such hypertrophic reactions of themselves to heal the tuberculous disease, as the unrestrained double infection is just as likely to kill the patient.

By conservative treatment spontaneous healing by fusion of diseased bodies does occasionally happen, especially in these mildly secondarily infected cases. In addition, particularly in the dorsal region, Nature makes a great attempt at healing by spontaneous ossification of the interspinous ligaments. The great difficulty about such healing processes is that in their rate of progress they fall short of the tuberculous lesion. Only rarely does bony healing overtake the tuberculosis. It is obvious why this should be so.

Concerning the progression of tuberculosis of the spine one important factor is that of movement. In all parts of the body movement favors the increase of the tuberculous process; most joints can, however, be immobilized by fixation in splints. The spine it is impossible to fix, except by operation, as there is a considerable rhythmic movement of each of the presacral segments with every respiratory movement of the chest, regardless of how the patient is held.

Reference has already been made to the occasional occurrence of multiple spinal lesions in cases of active pulmonary tuberculosis. One must also bear in mind the possible development of lesions elsewhere, as for example in other skeletal structures or in the genito-urinary organs; all, including the spinal lesions, being the result of blood-borne bacterial showers from the primary focus.

Spinal tuberculosis therefore demands great care in its early diagnosis, in the discovery of the primary focus and in its observation for the development of associated tuberculosis lesions. Bearing the last two points in mind during treatment, one realizes the importance of giving the patient the best possible general care for a long period after the surgeon has effected fixation of the diseased region.

SUMMARY

1. A plea is made for the earlier diagnosis of spinal tuberculosis, especially in young children.
2. In children, restlessness and fatigue may be the only symptoms.
3. In adults the earliest symptoms are severe pain, muscle spasm, and limitation of movement and the earliest change found roentgenologically is a destruction of intervertebral disc as evidenced by a reduced and irregular joint space.
4. The well known liability of the dorsolumbar junction to both trauma and tuberculosis should emphasize the need for careful lateral roentgen studies of this region.
5. The influence of respiratory movement in aggravating the disease in the dorsal region is noted.
6. Double lesions are not uncommon, particularly in patients with an active pulmonary lesion.
7. The tuberculous lesion requires treatment for a longer period than that necessary for the postoperative fusion of a spine.

THE MANAGEMENT OF THE SURGICAL DIABETIC

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DETROIT

The management of diabetes mellitus is being constantly improved. The diabetic is living a longer, happier and a more useful life. With this promise, there is also a threat: as more diabetics live an increasing number of years, more and more of them will develop surgical complications. The diabetic is in no wise immune to the surgical conditions which afflict the non-diabetic, but is more susceptible than his non-diabetic brother to certain degenerative diseases which invariably follow disturbed carbohydrate and fat metabolism. The death rate for our young diabetics is decreasing, while it is rapidly increasing in the later age groups where surgical complications are most prone to develop. It is estimated that 50 per cent of all diabetics at some time must face the sur-

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geon,[1] who, as a rule, is not ordinarily concerned with the management of diabetic complications.

The surgical complications which develop in diabetics may be grouped into two classes.

1. Abnormal anatomical conditions which impair the comfort, but do not jeopardize the life of the patient.

2. Acute inflammatory lesions which markedly increase the severity of the diabetes, and call for surgical relief at the earliest opportune moment. The first class should include all uncomplicated varicosities; all forms of benign tumors; all repair operations on chronic anatomical abnormalities, and all chronic inflammatory lesions which do not apparently fall in class two. In the second class we must include all forms of acute infectious and traumatic surgical disease, all forms of malignancy and all forms of gangrene. It is at once apparent that there is no condition in this classification that does not fall in the realm of a general surgical practice. These conditions are primarily no different in the diabetic than in the non-diabetic, but the patients are radically different, and a knowledge of the diabetic constitution is essential to their successful treatment.

The essentials of success in diabetic surgery are these: (1) a correct diagnosis, (2) an opportune time of operation, (3) a judicious choice of anesthetic, (4) gentle, rapid, skillful surgery, (5) proper post-operative care.

Class 1.—In the first class of cases the diabetes does not influence our diagnosis in any way. The operation should only be performed when there is no detectable evidence of diabetes. In other words when the diabetes is under perfect control. The pre-operative management of these cases should consist in establishing normal body weight, normal blood sugar, normal CO_2, a normal blood count, and a normal urine. In preparation for the operation the diet should be relatively high in carbohydrate, moderate in protein, and low in fat. Insulin is advisable in cases where the patient cannot keep the fasting blood sugar below 150 mg. with a CHO intake of at least 150 grams daily. There is never any excuse for haste in the pre-operative care, and weeks or even months may be spent in preparing the patient for his half hour on the operating table.

The choice of anesthetic is not of great importance in these cases provided it is not long continued. The post-operative care is essentially the same in all diabetics.

Class 2.—In the diabetic the diagnosis of acute inflammatory surgical disease is beset with many pitfalls. The picture is usually complicated by the developing ketosis, with its attendant dehydration, and blood concentration. The patient is less able to coöperate, and coma develops early in untreated cases. Nausea and vomiting will give no differential aid, as it is common in diabetic acidosis. The leukocyte count is of little or no value, as it may be 20,000 or more in uncomplicated ketosis. The differential count is somewhat more reliable, as the blood is usually concentrated in normal proportions in uncomplicated cases. The physical examination is notoriously unreliable and frequently leads to an erroneous diagnosis based largely upon tenderness and muscle spasm. The diabetic in acidosis may have the signs and symptoms of almost any acute surgical disease. Pain is often a prominent and distressing symptom in these cases. It may closely simulate a gall-bladder or renal colic, while occasionally a ruptured viscus may be suspected.

Sedatives and opiates are very dangerous; not only do they mask the symptoms and increase the difficulty of diagnosis, but they also tend to precipitate coma.

At this stage the treatment should be directed toward the relief of the acidosis. A diabetic in acidosis is never a fit case for surgery; only in extreme emergencies where the diagnosis is obvious, is it advisable to adopt surgical intervention before relieving the acidosis. With glucose intravenously and insulin subcutaneously, the acidosis can be speedily relieved, and at the same time the patient's resistance is markedly improved. Some of these cases lose their surgical symptoms when the acidosis is relieved, and those who do not can be operated with much greater safety.

If the diabetic has been under control and is not in acidosis when the acute symptoms develop, the case is somewhat simplified, and may safely be considered a surgical problem.

TREATMENT OF ACIDOSIS

When the patient is nauseated, and in all cases where it is desirable to relieve the acidosis in the shortest possible time, glucose should be given intravenously. This is conveniently given in 25 gram doses as a 12.5

per cent solution (50 c.c., 50 per cent glucose in 150 c.c. normal saline) in normal saline. This may be repeated every 1 to 2 hours until the ketosis is relieved. Fifty units of insulin may be given with the first injection of glucose. In severe cases it is well to divide this dose into 25 units subcutaneously, and the other 25 units administered slowly into the glucose saline solution as it flows down through the tube. This is usually done by inserting the hypo needle into the rubber tubing of the intravenous set, and discharging the insulin slowly, so that there will be some immediate insulin effect as long as the sugar solution is flowing into the vein. The insulin given subcutaneously is sufficient to take care of all subsequent injections of glucose. The bladder should be emptied completely every hour, and tested for sugar and diacetic acid. The Benedict qualitative test for sugar, and the Ferric chloride test for acetone and diacetic acid are perhaps the simplest and most reliable for ordinary use. It is safe to give 2 units of insulin for every 1 gram of glucose until the urine is sugar-free or the blood sugar is reduced to 150 mg. We are primarily interested in the acidosis, and our treatment is directed toward this end. Freedom from hyperglycemia and glycosuria is desirable, but not essential. As soon as the patient is free of acidosis the operation need not be longer delayed, regardless of a high blood sugar and glycosuria. In uncomplicated ketosis the dosage of insulin recommended here would quickly lead to hypoglycemia, but in the presence of infection the insulin is less effective, and the dosage must be regulated by the special needs of each individual case.

TYPES OF ANESTHETICS

As soon as the patient has been filled with fluids and is free of acetone and diacetic acid we are ready to consider the type of anesthetic. An ideal form of anesthetic has not yet been discovered, but there are many advantages in some of the forms of anesthesia we now have at our disposal.

Chloroform is the most toxic of the inhalation anesthetics. One and one-half to 2 per cent of chloroform vapor is necessary to produce anesthesia, while 4 per cent is fatal. Of all anesthetics chloroform produces the most profound disturbance in metabolism, often leading to acetone, and diacetic acid in the urine, while in some cases there may be a delayed toxic reaction with signs and symptoms very closely resembling diabetic coma.[2] The liver usually suffers the greatest injury, but there is extensive fatty degeneration in all of the other organs. Due to the increased destruction and incomplete oxidation of proteins there is an increase in the urinary nitrogen, creatinin, ammonia, and diamino acids. Glycosuria does not frequently occur. Considering these disadvantages and the relative merits of some of our other forms of anesthesia, chloroform should very seldom, if ever, be used in the diabetic, for even the shortest operations.

Ether produces a more intensive hyperglycemia than does chloroform. The alkali reserve of the blood is lowered and acetone may sometimes be found in the urine, although less frequently than following chloroform anesthesia. Ether, due to its fat-solvent properties, is stored in the adipose and nerve tissues and in the liver. Prolonged ether anesthesia always gives rise to severe acidosis in the diabetic.

Ethyl Chloride for prolonged operations is even more dangerous than chloroform. It does not give good relaxation. For short operations where complete relaxation is not essential, nitrous oxide and oxygen is to be preferred. When a gas apparatus is not available, and a very short general anesthetic is required, such as the lancing of abscesses, ethyl chloride is preferable to either chloroform or ether.

Nitrous Oxide and Oxygen is the least objectionable of all the inhalation anesthetics. Solis-Cohen says, "The tendency to cause acidosis is very much less marked than with ether or chloroform and the gas may be used with comparative safety in diabetics."[3] It produces hyperglycemia due to asphyxia, but this is not so marked as with chloroform or ether. For short operations on the diabetic where complete relaxation is not essential, nitrous oxide and oxygen is the anesthetic of choice.

Spinal Anesthesia comes closest to our ideal for an anesthetic in diabetic surgery. The consciousness of the patient is not disturbed and the anesthetic itself has very little effect on carbohydrate metabolism. It is best suited for operations below the diaphragm, and is most certainly the classical anesthetic for amputations of the lower extremities in diabetics.[4] Its contra-indica-

tions are: (1) a very low blood pressure; (2) a very high blood pressure where a sudden drop would be dangerous; (3) operations on the upper part of the body where there would be danger of bulbar paralysis. For these high operations, local tissue infiltration and nerve block may be employed to good advantage. A local is better than a general anesthetic in diabetic surgery.

Sodium amytal is the one anesthetic that has no effect on carbohydrate metabolism,[5] and in fact it counteracts the hyperglycemia caused by morphine and ether.[6] It has the very great disadvantage in that it is not a true anesthetic at all, but rather a hypnotic, and must be supplemented by other forms of anesthesia. The greatest handicap to the use of amytal in diabetic surgery lies in the prolonged coma following the operation. The difficulties of post-operative care are increased as the patient may pass from amytal coma to diabetic coma, or insulin coma, without recognition and appropriate treatment.

Enough morphine should be given to allay restlessness, but especially in those cases where gas is to be administered the dose should be small, otherwise respiration will be so depressed that the gas cannot be given in sufficient quantity to produce anesthesia.

Atropin should not be given unless ether is to be used for the anesthetic. It is advisable to give 10 or 15 units of insulin just before the anesthetic is given to compensate for the hyperglycemia.

THE OPERATION

Diabetics are not suitable subjects for experimental surgery. Gentleness and the avoidance of tissue trauma are of paramount importance. The operation should be performed as rapidly as possible. The length of time required for the operation is of much more importance than the choice of anesthetic agent. Often a 2 or 3 stage operation is better than attempting to complete a long complicated operation at one time. It is best never to attempt to do more than one operation on a diabetic at one time.

POST-OPERATIVE CARE

In those cases that have received an inhalation anesthetic it is always advisable to terminate the anesthetic with about one minute of carbon dioxide and oxygen. This promotes deeper respiration, washes out the unabsorbed anesthetic remaining in the lungs, and shortens the period of anesthetic coma. It probably also reduces the incidence of post-operative pulmonary atelectasis.

As soon as the patient is back in bed fluids should be started immediately. The most convenient method is to give continuous proctoclysis of normal saline and 5 per cent glucose. This may be given as rapidly as it can be retained by the patient.

The bladder should be catheterized, and completely emptied every 4 hours. Each specimen is tested for sugar and diacetic acid. When sugar is found a dose of insulin is given proportional to the sugar reaction in the urine. The dose of insulin will ordinarily vary from about 5 to 20 units. If the qualitative sugar test by the Benedict method gives a green reaction, 5 units may be given; for a yellow reaction, 10 units; for a red reaction, 15 units; and for a brown reaction 20 units may be given with safety. This is always a safe procedure to follow while the patient is reacting from the anesthetic, but in severe cases when two or more urinalyses give a brown reaction, the dose of insulin may be doubled or even tripled.

Should the urinalysis be negative for sugar and positive for diacetic acid, the patient must be given more carbohydrate. Within the first 12 hours after operation, or in any case where the patient is nauseated or semi-comatose, this is best accomplished by injections of 10 per cent to 20 per cent glucose intravenously. In some cases there are thermal reactions following the intravenous injection of glucose, but these are not harmful to the patient, and are no contraindication to its use.

As soon as the patient has reacted, and can swallow without difficulty, fluids by mouth should be given as rapidly as the patient can tolerate them. The first fluids to be given by mouth should be hot tea, or water, later clear broth and cereal water. When these fluids are well tolerated and the operation itself does not necessitate a prolonged fast period, the patient may be given carbohydrate fluids. Sixty c.c. of orange juice, and 120 c.c. of milk may be alternated every 4 hours (2 hour feeding) for 5 feedings in 24 hours. This gives a diet of C.90, P.20 and F.20, total calories 620. As soon as the patient can tolerate 2,000 c.c. of fluids daily by mouth the proctoclysis is dis-

continued. When this diet is well taken, and there is need for more food we should give a soft diet consisting of protein 2/3 gram, carbohydrate 2 grams and fat 1 gram per kilo of body weight. This will give a diet approximately 20 per cent below basal requirements. The diet must always be calculated and weighed in the diet kitchen, and any uneaten food must always be substituted in some form of equal food value that is acceptable to the patient.

When the patient is first placed on this diet it is well to test the urine before each meal and at 11 P. M. When sugar is present a dose of insulin is given in proportion to the color reaction of the sugar test. In addition to this the total glucose in the 24 hour urine is estimated, and then we can calculate quite closely the amount of insulin necessary to keep the patient sugar-free on a given diet. As the patient becomes sugar-free the tolerance often improves rapidly and we must be careful to avoid giving too much insulin. As soon as the night urinalysis is sugar-free it is advisable to reduce the evening dose by 5 units, and then depend on blood sugar estimations, or a return of glycosuria as a further guide. Considering the variability of the kidney threshold, the blood sugar is an important guide in this stage of the treatment.

As convalescence advances, and the patient is able to take more food, he may be given a diet calculated to meet his caloric requirements with an appropriate dose of insulin.

MANAGEMENT OF POST-OPERATIVE COMPLICATIONS

Pulmonary.—We have mentioned the use of carbon dioxide and oxygen following ether anesthesia to shorten the period of post-operative coma and lessen the possibility of pulmonary atelectasis. Caffein sodium benzoate, gr. 5 to gr. 7½ every ½ hour for 2 or 3 doses, may also be used for the same purpose.

Gastro-intestinal.—Flatulence is one of the most annoying of the gastro-intestinal complications following surgery on the diabetic. Pituitrin, which is so often used to relieve this condition, is contra-indicated in the diabetic. Pituitrin is remarkably effective in stimulating peristalsis and eliminating flatus, but unfortunately it is equally effective in checking the action of insulin. Pituitrin always makes the diabetes more severe.[7] The same size dose of pituitrin apparently does not have the same effect on all diabetics, but in general the more severe the diabetes the more deleterious will be the effect of pituitrin. If through some oversight pituitrin has been given, the previously established insulin dosage must be increased, and it is often best to revert to the 4 to 6 hour urinalysis followed by appropriate doses of insulin until the new tolerance of the patient has been determined. It is much better to use a rectal tube, hot stupes, enemas, or even a cathartic to relieve the flatulence.

Cardio-vascular.—In an attempt to decrease the incidence of thrombosis and embolism there has been an increasing tendency for surgeons to prescribe thyroid as a routine post-operative procedure. Granting that thyroid is of value in reducing the incidence of post-operative complications, still we must consider some of the other effects which thyroid has on the diabetic organism. Thyroid increases metabolism, diminishes the action of insulin, and depletes the stores of glycogen in the liver.[8] Generally speaking these are the things we desire to avoid in the diabetic. Unless there is an actual thyroid deficiency, the administration of thyroid is contra-indicated in the diabetic. Digitalis, strophanthus, quinidine, oubaine and the nitrites apparently have no untoward effect on the diabetic and may be used as indicated.

Adrenalin is not indicated in the treatment of shock.[9] Comparing the action of adrenalin to that of insulin we note that adrenalin raises the blood sugar while insulin lowers it. Adrenalin depletes glycogen reserves while insulin tends to build them up.[10] However, in their effect on blood and urine phosphates and nitrogen, adrenalin and insulin have a very similar action and hence are not truly antagonistic. In the management of diabetes, adrenalin should be used for only one condition, namely, hypoglycemic shock *where the patient cannot swallow and intravenous glucose is not immediately available.* At best it is only a temporary emergency drug which produces a transient elevation in blood sugar at the expense of the glycogen reserves in the liver. Its use should always be immediately followed by glucose either by mouth or intravenously.

CONCLUSIONS

1. There are an ever increasing number of diabetics who will need surgical treatment.

2. A knowledge of the diabetic metabolism is essential for the successful management of these cases.

3. Pituitrin should never be administered to the diabetic.

4. Thyroid should only be used in cases of hypothyroidism.

5. Adrenalin should be used only for the treatment of hypoglycemic shock when a suitable form of carbohydrate is not readily available.

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AIR EMBOLUS OF RETINAL ARTERY*

ALFRED DEAN, M.D.†
GRAND RAPIDS

J. S., aged 33, male, attorney of Grand Rapids, Mich. Has had no sickness that he recalls within the past five years and has not been indisposed by colds during the past winter. The day before coming to my office he spent rabbit hunting about sixty miles north of the city. The day was cold and there was a raw wind blowing, so, at the end of the hunt, a little stimulant was indulged in. The next morning when he left for the office he felt no ill effects from the exposure or the liquid cheer. However, after spending about two hours at his desk, he got up to get something (no violent effort) and about the same moment his collar felt uncomfortably tight, his vision became dim and he felt dizzy. A moment later when the dizziness passed, he discovered a haziness in his field of vision. On closing his right eye, the left showed everything clearly in outline, but on closing the left a curtain seemed to hang before the upper half of his field of vision, but by rotating the eye upward he could see the upper parts of buildings and the heads of people he was looking at.

This condition happened about 11:30 A. M. and by 11:45 he was in my office. At this time the blind area occupied the upper nasal quadrant of the field rather than the whole upper field and remained unchanged until atropin and massage to the eyeball was instituted.

With the history given, a number of conditions suggest themselves. Retinal separation, retinal hemorrhage, spasm of the retinal artery or a moving obstruction of the inferior branch of the retinal artery. The first three causes mentioned may be neglected because the blind area at first covered the upper half of the field and by the time the patient reached my office the blind area involved the upper nasal quadrant, showing that it was growing smaller instead of larger.

Examination.—Objectively eyes apparently normal. Reactions normal. Muscle balance unimpaired. Vision and field normal in left. Vision hazy in right with upper nasal quadrant blind to hand movements at a distance of six feet.

The ophthalmoscope made the diagnosis easy without dilating the pupil. The blood column of the inferior temporal branch was seen to be broken, ending abruptly, slightly beyond the margin of the disk where it emerged. Then, for nearly the diameter of the disk the vessel walls were ballooned out, but empty. Beyond this a much darker column of blood than that of the papillar side and also much darker than the venous blood, could be traced peripherally to the minute vessels. The proximal end beyond this obstruction and the distal end of the column of blood next to it suggested a sort of collar or cuff effect. This was due possibly to the capillary attraction and pressure against either end of the blood column with the color contrast.

I observed this phenomenon for possibly five minutes, but noted practically no change in the position of the obstruction. I then used atropin and light massage to the eyeball and was gratified to find the obstruction moving peripherally and with it the contracture of the blind area until the obstruction reached a bifurcation in the artery. Here the obstruction passed a short way into each one of the branches and it was still present, possibly somewhat contracted, four hours later. The patient at this time was able to map out the scotoma or blind area in the periphery with fingers held like a letter "V."

I did not see the patient again for two days and at this time found no break in the blood column, no peripheral scotoma, but scotomata relative and absolute (patient described them as though looking through leaves of a tree), within the fifteen degree radius corresponding to areas supplied by a small branch given off from the inferior temporal artery near the disk margin. This had ruptured and the hemorrhage had damaged the retinal tissue. A week later, scotomata were still present in this area but the hemorrhage had absorbed.

This is one of those freak cases observed by few ophthalmologists during their lifetime. As to its cause we can only conjecture, as the patient had not been coughing or sneezing or taking forcible breathing exercises. Air entered the blood stream, possibly from a weakened alveolus in the lung, and by chance the bubble found its way into the right central retinal artery and then because of mechanical reasons it entered the inferior retinal artery producing a scotoma of the upper half of the field. It

*Report of a Case to Grand Rapids Eye, Ear, Nose and Throat Society.

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perior. He was graduated from the School of Medicine at McGill University in 1872 at the age of twenty-three.

We learn from a classmate "that, while a conscientious worker, Osler never passed for a 'grinder.' He was not particularly known for his devotion to textbooks, nor were his efforts entirely focused on success in examinations, but his main attention was

Sir William Osler

directed toward the postmortem room and to all hospital work within reach. He was beloved because of his social qualities, kindliness of disposition, and characteristic sense of good humor. While he did not graduate very high in his class, there is a note in the convocation program to the effect that he was awarded a special prize for his graduation thesis, because of the originality it displayed and the research it evinced."

Immediately following graduation Sir William carefully prepared himself for the teaching and practice of medicine by spending two years abroad under such men as Virchow, Bamberger, Fox, Jenner, Ringer, Traube, and others.

Upon his return to Montreal in 1874 he was appointed, at the early age of twenty-five, Professor of the Institutes of Medicine at McGill. His new duties included physiology, a series of lectures in pathology, and later, histology. He best expresses his situation at this period when he says, "My first appearance before the class filled me with tremulous uneasiness and an overwhelming sense of embarrassment. I shall never forget the nice consideration of my colleagues and the friendly greetings of the boys, which calmed my fluttering heart. One permanent impression abides—the awful task of the preparation of about one hundred lectures. After the ten to twelve with which I started had been exhausted, I was on the treadmill for the remainder of the season. False pride forbade the reading of the excellent lectures of my predecessor, Dr. Drake, which, with his wonted goodness of heart, he had offered. I reached January in an exhausted condition, but relief was at hand. One day the post brought a brand-new book on physiology by a well-known German professor, and it was remarkable with what rapidity my labors of the last half of the session were lightened. An extraordinary improvement in the lectures was noticed, the students benefited, and I gained rapidly in the facility with which I could quote the translated German."

Osler was soon appointed physician to the Smallpox Hospital, and, later, physician to the Montreal General Hospital, where, during the following eight years, 1,000 autopsies are ascribed to his credit. He, himself, has said that a man should come into internal medicine by one of three ways: physiological chemistry, physiology, or morbid anatomy. He was proficient in all three, especially pathology. Sir William's first brilliance as a clinical teacher began to take form. A man with such firm scientific foundation, a comprehensive knowledge of the subject presented by him, and his personal magnetism could not fail to command the respect and esteem of his students and colleagues.

In the summer of 1884, at the age of 35, Osler received a call from the University of Pennsylvania. He could not resist the temptation of pastures new in the fresh and narrower field of clinical medicine.

Accordingly he arrived in Philadelphia in the fall of 1884. His arrival created the keenest interest among all medical men, for he was, in a political sense, a "dark horse." Alfred Stille had resigned from the chair of

Practice of Medicine in the University of Pennsylvania. William Pepper II, then Professor of Clinical Medicine, was advanced to succeed him. The faculty offered the latter's chair to William Osler, who was well known in Philadelphia as a teacher and original investigator through his constant contributions to medical journals. Osler arrived at a difficult time, when medical education was undergoing most radical changes. The more progressive schools were then instituting the three year medical course. The University of Pennsylvania was second to adopt this change, which resulted in bitter controversy within the faculty.

The remarkable part of Osler's entrance was that, while the reports of his election raised waves of regret and indignation, his actual plunge into the pond at once had the effect of making its surface placid, and this without there being any manifest effort on his part to ingratiate himself with anyone or all of the factions. He was gracious to his elders, cordial to his contemporaries, encouraging to his juniors, and jovial almost to the point of frivolity with all, but the dominant factor that made his way successful with all hands was that, to use the student phrase, "he was up"—he knew his subject, and, even better, he knew how to teach what he knew.

So far as the students were concerned, there can be no doubt that their first impression was one of disappointment. No polished declamations with glowing word pictures of disease, such as they had listened to from Stille and Pepper, and for which the Philadelphia school was then famed, came from this swarthy person with drooping moustache and informal ways, who, instead of arriving in his carriage, jumped off from the street-car, carrying a small black satchel containing his lunch, and with a bundle of books and papers under his arm; who was more apt to pop in by the back door instead of by the main entrance; who wore a frock-coat, top hat, and a flowing red necktie, low shoes, and heavy worsted socks which gave him a foreign look; who, far from having the eloquence of his predecessor, was distinctly halting in speech; who always insisted on having actual examples of disease to illustrate his weekly lectures, and, as likely as not, sat on the edge of the table swinging his feet and twisting his ear instead of behaving like an orator—this, at least, was not the professor they had expected.

His first ward class, however, was an eye-opener, for the bedside instruction which he was accustomed to give was an undeveloped feature in the Philadelphia school. In it he fairly frolicked in enthusiastic delight, and in a few moments had every man intensely interested and avid for more.

It is difficult for us to realize today that at that time not only were there no laboratories, but the only microscope in the University Hospital was Osler's. Any attempt at original study or research was lacking, at least among the younger men. Clinical microscopy was, as yet, unknown. Osler's enthusiasm soon made an opening, and almost within a month of his arrival he and Dr. George Dock contributed from their own pockets to the equipment of a small clinical laboratory under a part of the hospital amphitheater, and there, amid surroundings so discouraging as to foil the novice, he produced an atmosphere so encouraging and helpful that young fellows trouped to his side. And so it may be said that Osler, on entering Philadelphia, carried the torch of original research in clinical medicine.

Osler did not favor a general practice for himself. Unlike his colleagues who were accustomed to hold afternoon office hours, he would betake himself with a group of students to spend the afternoon making postmortem examinations.

His circle of friends grew rapidly and was by no means limited to his own school. Osler had a particularly warm spot in his heart for men of an older generation, whom he always treated like contemporaries.

One year after coming to Philadelphia, Osler was chosen to deliver a series of lectures in London. He chose as his subject, "Malignant Endocarditis," on which he was able to speak not only with authority, but with considerable originality. These were destined to be among his greatest contributions of this period, and contained the first comprehensive account in English of this disease, and did much to bring it to the attention of clinicians.

It is of interest to note that while in London, an instrument maker perfected under Osler's directions the binaural stethoscope which was to replace the single tube stethoscope then in use. Osler was so careful to remain anonymous in this matter that his

the parotid fascia and the horizontal ramus of the lower jaw. Vertically it extends from the base of the skull downward and is continuous with the carotid sheath.

In removing the tonsils the laryngologist frequently encounters an elongated styloid process external to the tonsil bed, and, anatomically, this process with the muscles and fascia attached thereto subdivides the parapharyngeal space into a prestyloid and a retrostyloid compartment. The latter contains the great vessels and nerves and some lymph glands, so that infection in this space occupies a dangerous area.

Infection of the parapharyngeal space usually occurs secondary to peritonsillar or retropharyngeal infection. It may also occur after tonsillectomy under local anesthesia from infection carried by the needle. It also occurs for similar reasons after tooth extraction under block anesthesia.

Clinically, the most characteristic sign of infection in this region is swelling or fluctuation at the angle of the jaw. There may also be a slight inward protrusion of the lateral wall of the pharynx and some difficulty in opening the mouth.

Treatment:

In the presence of pus in this space, the drainage should be by an external incision following the angle of the jaw and usually by a blunt dissection.

SEPTIC THROMBOPHLEBITIS

In recent years a great deal of attention is being given to septic thrombophlebitis originating in the parapharyngeal space. The veins which run through this space (tonsillar, posterior facial, and internal jugular) may become infected from a parapharyngeal abscess. One school is of the opinion that the thrombosis is of primary origin, but at the present time most pathologists believe that a cellulitis followed by periphlebitis and endophlebitis accounts for the thrombosis. So called septic sore throat is probably a manifestation of this disease. Claus, of Berlin, reports on a series of 28 cases upon all of which he operated, and of which 14 recovered and 14 died. The symptoms closely resemble those of thrombosis of the lateral sinus secondary to mastoiditis, that is, the patient, several days after a tonsillitis or quinsy, develops chills, fever, leukocytosis, and signs of pleurisy or minute emboli in the lungs.

The treatment of this condition is surgical and consists in opening and draining the parapharyngeal space through an external incision with exposure of the internal jugular common facial and posterior facial veins. If the veins are found thrombosed, they should be ligated and removed, and the exploration should be carried as near the tonsil bed as possible. It may be necessary to cut across the posterior belly of the digastric and the stylohyoid muscle in order to reach the primary source of infection.

DEEP CELLULITIS OF THE NECK

Deep cellulitis of the neck frequently occurs along the cartoid sheath as a result of infection of the lymph glands attached to the sheath. Infection of the cartoid sheath should be treated by exposure of the sheath, removal of the infected glands, and drainage. Marschik has devised a technic whereby the incision from below upward is made parallel to the anterior border of the sternocleidomastoid muscle. He introduces an iodoform pack at the lower angle of the incision to prevent infection downward into the mediastinum, and then proceeds to open and drain the infected area above.

Another form of cellulitis may occur in the submental region: the so-called Ludwig's angina. The latter disease is usually found in elderly men and ordinarily originates from infection about the teeth in the lower jaw. The infection may be pocketed either above or below the mylohyoid muscle, which extends as a diaphragm between the horizontal rami of the lower jaw. When infection is above the muscle, it may sometimes be relieved by an incision inside the mouth, but when it occurs as a brawny swelling between the chin and the hyoid bone, deep incisions parallel to the lower jaw and in the middle line of the neck must be made. Some French surgeons prefer to make these incisions with the actual cautery. If edema of the larynx threatens, a tracheotomy should not be deferred.

RETRO-ESOPHAGEAL MEDIASTINITIS

The bronchoscopist is concerned with infection about the esophagus. Infection of the posterior mediastinum may result from the presence of foreign bodies in the esophagus, from perforation of the esophagus in attempting to remove such foreign bodies, or from bullet or stab wounds. It may also occur secondary to spinal caries. The symptoms are those of extreme dysphagia,

fever, pain, and sometimes tenderness and swelling at the root of the neck. Perforation of the esophagus may be accompanied by interstitial emphysema at the root of the neck due to the escape of air from the esophagus into the surrounding cellular tissues. The lecturer in several cases of perforation of the esophagus has been able to demonstrate by X-ray the presence of these air bubbles in the tissues surrounding the esophagus when there was no palpable emphysema in the neck. At the same time the X-ray shows the marked retro-esophageal swelling with displacement of the esophagus forward. These two X-ray signs are of great importance in the early diagnosis and treatment of retro-esophageal infection.

With increasing pain, fever, and swelling, together with signs of emphysema, as a rule the only hope of saving the patient is by exposing the esophagus in the neck (or possibly by an internal esophagotomy). Dr. Furstenburg, of Ann Arbor, has devised an ingenious operation for the relief of mediastinal infection. Incision is made at the root of the neck, preferably on the right side. The trachea and esophagus are exposed, and a blunt dissection is made behind the esophagus, whereupon a rubber catheter is passed behind the esophagus. A suction pump is attached to this catheter, and by repeated or continued aspiration he has been able to save a number of cases.

In some cases not accessible through the neck the only hope for the patient is by a posterior mediastinotomy, which should be performed by a thoracic surgeon.

SARCOMATOUS TUMOR OF THE TESTICLE AND CASE REPORT

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Neoplastic disease of the testis is a rather uncommon condition. Despite this rarity, considerable interest has been focused on the origin and pathology of the Wilms tumor. Cancer of the testis comprises about one-fourth of the malignancy of the genito-urinary tract and also has been variously estimated to include from four to five per cent of all cancers. In the Mayo Clinic, fifty cases were reported among three hundred thousand patients. London Hospital reports sixty-five cases in one hundred and ten thousand male admissions. McKenzie, D.M., reported thirteen cases from 1920 to 1930.

Benign tumors of the testicle are rare affections, but malignant neoplasms are more common, especially in youth, than is generally recognized. They metastasize by the way of the blood vessels and lymphatic channels. This process occurs very early and usually appears first in the glands along the spermatic vessels, the lumbar and retroperitoneal glands; second, in the supraclavicular glands through the common thoracic duct. The lungs, liver, kidneys, or spleen may become involved. Injury and heredity are considered to be the greatest etiological factors of this disease. The right testis predominates over the left, but bilateral growths are extremely rare, as are also relatively pure carcinomas. But sarcomatous or mixed types are probably more frequent.

The diagnosis of malignant disease of the testis is usually made by a process of exclusion, such as gonorrheal epididymis, syphilis (gumma), tuberculosis, hydrocele, hematocele, scrotal hernia, etc. Clinically, in cases where there is a clear history of the later conditions, the diagnosis will present no difficulties. What is the nature of the neoplasm (Wilms tumor)? Whether benign or malignant, the latter belong mostly to the sarcomata proper. They grow very early and rapidly, spreading along the lymph channels and in the blood vessels. The patient gives history of mild or severe injury. Sarcomata are most common in children before the age of ten, and again in adults between the ages of thirty and forty.

CASE REPORTS

Case 1.—D. H., age 30, white. Stated that about three years before admission to the hospital, he had been struck on the right testicle by a ball. But that apart from the severe pain, and some swelling at the time, he had no ill effects. Two years later he

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noticed a small lump behind and below the right testicle. This was quite painless but enlarged steadily. He had no other symptoms and appeared to be in perfect health. In fact, since his accident, has been married and has two normal children. This swelling had gradually increased but during the last six months had grown much more rapidly, particularly the last two months.

The patient presented himself for examination because of the discomfort from dragging and slight pain in the right groin, but there had never been any pain in the testicle. The physical examination of the head revealed no abnormality. The pupils were equal and reacted to light. There was nothing remarkable about the nose, throat, and superficial lymph glands. The heart and lungs were within normal limits. The abdominal wall was below the costal margin. Some tenderness over the lower abdomen. Liver and spleen not enlarged. The region of the right side of the scrotum revealed a large pyriform mass extending to the external abdominal ring. The veins of the scrotum were very large, but the skin was freely movable over the tumor. Neither the testicle nor epididymis could be differentiated. No testicular sensation was elicited. The mass was opaque to transillumination. No enlargement of the lumbar or inguinal lymphatic glands. The cord was normal and rectal examination negative. Laboratory findings: urine, negative. Blood studies as follows: hemoglobin 85 per cent, red blood cell count 4.9, white blood cell count 11,000, polymorphonuclear leukocytes 80 per cent, lymphocytes 14 per cent, basophiles 2 per cent, eosinophiles 3 per cent, large lymphocytes 1 per cent. The Kahn test was negative.

The diagnosis of neoplasm was made and an operation was advised. This was performed on November 1, 1930, an orchidectomy with high division of the cord being successfully carried out. The patient recovered from the operation. On January 19, 1931, he reported that he had gained 27 pounds in weight and was feeling good. On February 28, 1931, he complained of pain in the left inguinal region, cough, and has lost 15 pounds. He is showing metastasis in the inguinal lymph gland, and mediastinum.

Pathology.—The specimen consisted of a large, rounded, well encapsulated mass, about the size of a small grapefruit, with the cord attached. The cut surface showed that the testis, epididymis and the lower part of the spermatic cord were completely replaced by neoplastic tissue, which had a white, lobular appearance. There were several small areas of hemorrhages, a slight effusion into the thickened tunica vaginalis and lower part of the cord. There were many areas of degeneration and some caseations, especially at the center of the mass.

Fig. 1. Case 1. Photograph of a gross specimen of an embryonal sarcoma of the testicle.

Fig. 2. Case 1. Photograph of gross specimen shown in Figure 1, cut open, showing area of degeneration and hemorrhage.

Microscopical Examination (by G. L. Bond.)—The sections from the mass removed from the testicle showed a widespread actively growing embryonic cell sarcoma, invading all parts of the mass. There were many areas of necrosis, and a few areas of hemorrhage. The tumor had already invaded several large veins.

Diagnosis.—Embryonic cell sarcoma of the testicle. This tumor was highly malignant and has probably already metastasized through the blood stream.

Case 2.—H. F. The patient complained of swelling of the left testicle, and inability to write with the right hand. His present illness disclosed that the enlargement of the right testicle began six months ago and had assumed the size of a large orange, very hard, painless, and not tender. About September 15, 1927, while playing cards, the right hand and fingers became stiff and he was unable to form words clearly. After fifteen weeks he recovered from his speech difficulty, but was unable to write legibly with his right hand. His past history revealed that thirty years ago while lifting, he noted a sharp pain, and lump in the left inguinal region, which increased in size, and was reducible into the abdomen, and for which he wore a truss for five or six years.

Physical examination revealed a well developed, obese, adult male of fifty-seven years, lying restlessly in bed, irrational and disoriented at times, with a slight slurring of speech, apparently in no pain. Blood pressure was 200/95. The heart and

lungs were essentially negative. The left external inguinal ring admitted the thumb with ease, gave a definite impulse on coughing and a lemon sized doughy mass was protruding from the inguinal ring, which was easily reducible into the abdomen. The right testis was enlarged to about the size of a large orange, of stony hardness, painless, not tender, did not transilluminate light. The right biceps and knee jerk were increased. Blood Kahn was four plus. Urine negative. Diagnosis was made as right hemiplegia and gumma of the right testis, which did not respond to the anti-syphilitic treatment.

The patient was operated on November 2, 1927, in the University of Michigan Hospital. The department of pathology reported: malignant teratoma of sarcomatous architecture. The patient died on November 17, 1927. Autopsy finding revealed: Luetic aortitis. Multiple areas of softening of the brain. Metastatic retroperitoneal lymph glands on the right side.

CONCLUSIONS

1. Malignant neoplasm of the testis is a grave disease. Prognosis is poor, even after the operation and deep X-ray and radium therapy. Mortality, 82 to 95 per cent.

2. The patient sees the physician when the metastases have already made their appearance.

3. Metastasis through the blood vessels and lymphatics very early, even before clinical evidences appear.

4. The treatment that offers hope, if any, is early diagnosis and operation, followed by deep X-ray therapy.

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A DISCUSSION OF THE HISTORY OF SYMPATHETIC SURGERY*

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The existence of the Sympathetic Nervous System as a more or less separate entity has been known and discussed for many years. The work of Gaskell, however, helped to bring out many points of interest which had hitherto attracted little attention. As Langdon Brown has stated, "to read an account of the Sympathetic System before Gaskell is like reading a description of the circulation of the blood before Harvey." Gaskell was the first to make clear the direction of impulses in the Sympathetic Chain. On the other hand, many points were not clarified in Gaskell's original description and it remained for Langeley, Cannon, Crile, Ranson, Kuntz, and many others to add to and to work out to more completeness some of the generalizations put forth by Gaskell.

It is unquestionably true that Gaskell was a pioneer in this field and was the first to demonstrate that the nerve fibres which flowed from the spinal cord into the sympathetic chain were of smaller calibre than the nerves to the skeletal muscles. Having determined this he was able to show that there were fibres with visceral functions in the cranial and sacral nerves which subserve the functions of organic life, and which were not under the control of the will. Many names have been suggested to include all such visceral fibres, the one offered by Langeley probably being the one which is most universally accepted, namely, the autonomic nervous system, although we find the words sympathetic, vegetative, involuntary and visceral used quite extensively in the literature.

The whole of the autonomic nervous system, then, may be divided into two component parts, the true sympathetic, representing the thoracico-lumbar outflow, and the para-sympathetic, including the outflow through the cranial nerves from the midbrain and medulla as well as those from the sacral region.

The first known attempt to relieve

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patients sufferings from disease by performing operations upon the sympathetic nerves was made by Alexander about forty years ago, when he removed the superior cervical sympathetic ganglia in a patient suffering from epileptic attacks. According to Jonnesco a similar operation was carried out in 1896 upon a patient with epilepsy and exophthalmic goiter, although he himself did not perform that operation. In 1899 Jaboulay suggested treating certain pain syndromes by elongation of the periarterial sympathetic plexuses which, according to Leriche, was not given the attention it deserved. Jaboulay is accredited with having developed the operation of periarterial sympathectomy. His results were only partly successful when applied in disease with painful and trophic changes in the extremities. About 1900 Francois Franck suggested to Jonnesco that he might be able to successfully treat angina pectoris by removal of the cervico-thoracic ganglion, but it was not until sixteen years later that Jonnesco actually performed this operation for this condition.

In 1913 Leriche reported his first periarterial sympathectomy, which he chose to call "Elongation and Section of the Perivascular Nerves." He brought back into use Jaboulay's procedure, which had temporarily been discarded. The object of his operation was to deprive the periphery of its sympathetic control and he attempted to do this by denudation of the periarterial sympathetic plexuses. Subsequent reports by Leriche are interesting in that some failures or partial successes are recorded and for which, as a rule, he makes an unsatisfactory explanation. In his latest work he has adopted ramisection in addition to his former procedures in cases that do not respond favorably to periarterial stripping.

Following the earlier reports of Leriche many surgeons throughout the world attempted operations of a similar nature for various conditions. While some men met with considerable success, others report very little if any permanent improvement. The explanation for the failures with the use of Leriche's operation is readily found when we consider the work of Kramer and Todd, which appeared in 1914. The subject of their investigation was "The Distribution of Nerves to the Arteries of the Arm with Discussion of the Clinical Value of Results." Their researches threw considerable doubt on the anatomical and physiological basis for periarterial sympathectomy, as they showed that the sympathetic nerves supplying the vasoconstrictors were given off at irregular intervals from the segmental nerves and did not follow the blood vessels, as previously supposed. The work of Potts on the lower extremities showed the same condition to exist.

Jonnesco, in 1921, reported his case of cervical sympathectomy for angina pectoris, which was operated upon five years before, but who had gone to war and had not been observed during all of that period. It is of extreme value to note that, in spite of the hardships of war, no anginal attacks occurred subsequent to the operation. In February, 1923, Coffey and Brown showed that the same result that had been obtained by Jonnesco could be gotten by cutting the sympathetic trunk and superior cardiac nerve below the superior sympathetic ganglion, or by the removal of the ganglion itself, while Jonnesco had removed the stellate ganglion in order to secure relief from the anginal pain.

In the early part of 1923 Muller's article appeared in which he discussed the relation of sympathetic surgery to many conditions, among which were angina pectoris, Raynaud's disease, causalgia, and other disturbances. In October of the same year Bruening presented a discussion of the results obtained in a series of ten cases in which the stellate ganglion was removed independently or in conjunction with the interruption of all sympathetic tracts in the neck. His list included angina pectoris, Raynaud's disease, scleroderma, facial hemiatrophy, for the decrease of blood pressure in hypertension and for the production of hyperemia of the brain in Parkinson's disease following lethargic encephalitis. The relief in angina pectoris had persisted unchanged for a period of nine months at the time his article was published. In Raynaud's disease and scleroderma he reports good results, the best, he feels, being obtained with ganglion extirpation as opposed to periarterial neurectomy. In the patient with scleroderma, in addition to removing the stellate ganglion, the entire sympathetics of the neck were extirpated. Marked clinical improvement followed this procedure. In the case with facial hemiatrophy, following complete removal of the

sympathetic tracts in the right side of the neck, pulsation returned in the temporal artery of that side; in fact, was stronger than on the unoperated side. Bruening is of the opinion that this latter case is further proof of his former assertion that "pathological increase of sympathetic tonus leads to tissue atrophy." The results in the cases of hypertension were not satisfactory, only a very weak temporary response being noted, which is in accordance with the results of other investigators. No appreciable benefit was obtained in those patients with Parkinson's disease, which is also in keeping with the unfavorable outcome as reported by other surgeons. The application of cervical sympathectomy to trophic conditions of the arm is also discussed, extirpation of the stellate ganglion apparently giving better results than perivascular stripping. The seriousness of the dissection in the neck is pointed out by Bruening, and he states that its use had better be employed in such conditions as scleroderma and Raynaud's disease, and in the hands of one familiar with this area in detail.

In December, 1924, the work of Royle and Hunter was published, both articles appearing in American journals at the same time. Their researches were in part carried out simultaneously although they worked independently for the most part. Hunter was interested in establishing a basis for sympathetic ramisection in spastic paralysis, and from his experiments on animals he concluded that "the basic principle of the operation of ramisection is that it removes plastic tone; that it is only indicated when plastic tone is in excess and hampers the voluntary activities which have persisted in spite of the central lesion; that a study of the nature of the spasticity of the spastic limbs and an estimate of the anatomical defect of the central mechanism responsible for the condition must go hand in hand, and only when the physiological indications are discoverable is the operation to be undertaken." Royle's work was carried out in order to determine whether or not it would be possible to relieve unfortunates who had received gun-shot wounds of the cranium during the world war and who had developed residual spasticities. He first developed the operation of ramisection by using experimental animals and later applied it to human patients. In his report he describes in detail his experiments, first, on the production artificially of spastic paralysis in animals before removal of the sympathetic trunk; second, the effect produced by the removal of a unilateral sympathetic trunk without any previous operative procedure; and, third, the effect of removal of the sympathetic trunk or ramisection in decerebrate animals. Convinced from his observations and results that a reduction in plastic tone was to be expected following sympathetic section he applied his operation of ramisection in the lumbar region to a patient with spasticity which had developed after a war brain injury. From his reports, only partial relief was obtained.

In discussing various phenomena noted subsequent to operation Royle made the observation that a distinct pink color of the skin as well as a rise in surface temperature was noted on the side of ramisection. While this observation and notation of the fact apparently did not impress him at the time as being of extreme importance, in reality it formed the basis for additional work on the part of other investigators and which ultimately led to a fairly definite surgical control of vasospastic disease.

Within a few months after Royle's first report, Adson performed his first transperitoneal abdominal sympathetic ganglionectomy and ramisectomy for spasticity, and in March, 1925, applied the operation in a patient suffering from Raynaud's disease, largely because his own observations, as well as Royle's, had convinced him that increased peripheral circulation and elevation in surface temperature would follow this procedure. Adson approached the sympathetic trunk from the mid-line rather than from the lateral lumbar area, as Royle did, and removed the second, third and fourth lumbar ganglia with the intervening trunk, as well as to divide all rami in this area. At first it was thought advisable by Adson to carry out periarterial neurectomy in addition to ganglionectomy and ramisectomy, the former procedure, however, being dropped as soon as it was discovered that the same clinical result was obtained without its use. A great deal of Adson's earlier researches and many of his later investigations have been done in association with Brown and Rowntree, and they together have been responsible for most of the earlier work that was done in this connection at the Mayo Clinic. The development of the vasomotor index and vascular

studies made before and after sympathetic ganglionectomy and ramisectomy are the splendid result of their combined efforts. More recently, Learmonth, Markowitz and Braasch have entered the field, and their work will be referred to later. Adson's abdominal operation has been used quite extensively since its original appearance, and many reports have been made from time to time in the literature.

In 1924, Henry brought forth what he described as a new method for the removal of the left cervico-thoracic ganglion in the treatment of angina pectoris. A preliminary report on this procedure had been read by him before the Royal Academy of Medicine in Ireland on December 15, 1922. Due to the fact that the anterior approach used by Jonnesco presented many hazards, and also receiving a suggestion from Sir William Wheeler on the possibility of a posterior approach, Henry set about to develop a posterior intrathoracic approach to the region of the stellate ganglion. The details of his technic are given in his monograph.

Resection of the cervico-thoracic and lumbo-sacral cord in the treatment of trophic and gangrenous affections of the limbs was advised by Diez in his article which appeared in September, 1925. Twenty cases were described by him, three of which were Raynaud's disease, twelve Buerger's disease, two causalgia, one acute tropho-nephrotic gangrene, one habitual acrocyanosis from arteriosclerosis, and one a tabetic perforating ulcer of the foot. Lumbo-sacral resections were done in seventeen cases and cervico-thoracic in three cases. In all, there were five failures, three improvements and twelve cures reported. His conclusions as to what is to be expected from sympathetic section in these cases are similar to those advanced by others previously, and he states that the results will be of greater intensity and more lasting if ganglion and cord resection is done than if the periarterial neurectomy of Leriche is performed.

Davis and Kanavel, in June, 1926, reported a series of five cases of vascular disturbances of the extremities for the relief of which they performed sympathectomy. They had previously reported their technic for the lumbar operation in October, 1924, at which time Adson also described his operation, both descriptions being given before a group of American surgeons which were being addressed by Royle and Hunter. In Davis and Kanavel's series they listed one case of erythromelalgia, and the question was raised by Adson as to whether or not this case ran true to type. Inasmuch as erythromelalgia is a disturbance associated with periodic attacks of painful, red extremities and caused by extreme vasodilation, it is reasonable to assume that it would not react favorably to the abolition of vasoconstrictor control. In this same report of June, 1926, an anterior approach is described which was used in the cervical operations, the inferior cervical and stellate ganglions and the intervening trunk being removed. In the lumbar operations both the mid-line transperitoneal and the lateral lumbar approaches were used, the authors preferring the latter if only one side is to be operated and the former when both sides are to be attacked at the same time. In this instance, as in Adson's lumbar operation, the second, third and fourth lumbar ganglia, with the intervening trunk, were removed. In another article published at the same time Davis and Kanavel recorded their observations on the effect of sympathectomy in spastic paralysis. While they stated that histologic evidence points toward dual innervation of striated muscle, they were unable to confirm Royle and Hunter's work on spastic paralysis. They agreed with Royle that no result was to be expected in patients with paralysis agitans, Parkinson's disease and degenerative or traumatic lesions of the spinal cord, but differed with him in stating that, from their work, they were unable to relieve patients suffering from Little's disease or from cerebral hemiplegia due to vascular lesions.

Early in 1927 Wade and Royle suggested a new method of operative treatment for Hirschsprung's disease, offering, at the same time, an explanation of the technic which they used, as well as the results of their operations. Wade reported two cases, one treated by extirpation of the colon and the other by ramisectomy. In the former dilatation of the ileum occurred close to the anal sphincter; in the latter the immediate result was good, which bore out the view that the failure of the sphincter to relax is due to over-action of the sympathetics. In this operation the laterally directed rami of the second, third and fourth lumbar nerves were not disturbed, thus differing from the ordinary ramisection of Royle. Later, in the same year, Royle's article appeared on the surgical treatment of Raynaud's disease and similar

conditions. For the first time he mentioned the significance of his earlier observations on color and heat changes in the extremities following section of the sympathetic tracts. He criticizes Leriche's periarterial neurectomy on the basis of Kramer and Todd's work, and the so-called "mutilating" operations of Adson and Brown, and Davis and Kanavel, stating that ramisection with trunk section is all that is necessary. Royle has added here trunk section, which he formerly did not use. Adson, on the other hand, has made no material changes in his operation since his original description, and feels that he is justified in carrying out the extensive resection in order to be sure that all tracts are definitely interrupted.

In March, 1927, Rowntree and Adson made their first report on the treatment of certain types of arthritis with lumbar sympathectomy, their first operation being done in June, 1926. Two years later the patient herself stated that she was completely cured of arthritis "in the legs." About this time, however, the arms became involved and in November, 1928, a cervico-thoracic sympathetic ganglionectomy was performed for relief of the upper extremities. Explanation of this operation will be given later. The usual reactions expected to follow sympathetic ganglionectomy occurred in this case and, at the time of dismissal, the patient is reported to have been markedly improved. Since that time a number of similar cases have been examined and operated upon by Adson and his associates with excellent results in those with definite symptoms of vasospasm.

Judd and Adson, in September, 1928, published their observations and conclusions on ganglionectomy and ramisectomy in Hirschsprung's disease. They cited two cases, and conclude from the favorable results obtained that the desired effect is produced by a reduction of sympathetic inhibition coming from lumbar rami communicantes through the hypogastric and pelvic plexuses. Their first case was operated upon in June, 1927, when a left unilateral lumbar ganglionectomy and ramisectomy was done, while the second patient was treated in December, 1927, a bilateral resection being carried out on account of the more extensive dilatation of the colon. Although Wade and Royle performed only a special ramisectomy in their case, Judd and Adson used the regular lumbar ganglionectomy and ramisectomy with the removal of the intervening trunk. No ill-effects are reported on account of the larger operation.

While surgical procedures upon the lumbar sympathetic chain were apparently giving quite satisfactory results when thoroughly carried out and applied in proper cases, this was not the case with operations performed for the relief of the various conditions involving the upper extremities. For this reason many surgeons and clinical investigators attempted various modifications of the current approaches to the cervical sympathetics. The operations of Leriche and of Jonnesco were not proving satisfactory in the hands of all surgeons. On account of this fact, and after several failures with their use, Adson developed a posterior intrathoracic approach to the cervico-thoracic region in order to be able to interupt all impulses to the brachial plexus with the greatest ease and safety. His first operation through this approach was performed on July 31, 1928, in a patient with Raynaud's disease, the right side only being operated upon, the left side being used as a control. The results were so satisfactory that on September 11, 1928, the left side was operated, and with equally good success. The Adson posterior operation consists of a mid-line approach through the lower cervical and upper thoracic area posteriorly, modified after the method of Henry described in 1924, with the eventual removal of the cervico-thoracic and second thoracic ganglia, the division of the rami in this area, and the section and complete removal of the sympathetic trunk from above the inferior cervical ganglion to below the second thoracic ganglion. Adson has performed this operation upon a fairly large number of patients, either independently or in conjunction with the abdominal operation, six to eight weeks, or longer, being allowed to intervene between the two procedures. While the original operation was done on one side at a time, the later procedures were carried out bilaterally in most instances. Patients with Raynaud's disease, Scleroderma, Buerger's disease with associated vasospasm, non-specific polyarthritis of vasospastic type, Little's disease with normal mentality, Hirschsprung's disease without obstruction of a mechanical nature, causalgias, and certain atypical neuralgias of the face have benefited by this

operation as well as by the abdominal operation where it is indicated. Many reports concerning this work have appeared in the literature within the past two years.

About the same time that Adson was perfecting his posterior intrathoracic approach, Royle, not satisfied with the old anterior exposure, developed a new anterior operation which he now uses in the surgical control of spastic and vasospastic disturbances involving the upper extremities. In addition to the ramisectomy which he formerly used, Royle has added trunk section in the new procedure. In the same year Fulton reported a case of Raynaud's disease in which he failed to secure relief in the upper extremity by the Royle ramisectomy, while good results were obtained in the same patient in the lower extremity by ramisectomy and division of the trunk. Here again, we see the gradual transition from simple ramisectomy to removal, or at least section, of the sympathetic structures.

In April, 1928, Frazier published his results on the treatment of atypical neuralgias of the face by operations upon the cervical sympathetic chain. He was not encouraged, and the outcome, with the exception of one case, was not satisfactory. Flothow, on the other hand, in October of the same year reported complete relief of pain in a patient with pain in the fifth nerve area, who had not responded to division of the sensory root of the gasserian ganglion, by cervicothoracic ganglionectomy and ramisectomy with removal of the intervening trunk. Peet concludes that failure to secure relief in Frazier's cases is probably due to the fact that the pain was central in origin and transmitted over the trigeminal nerve and that, for that reason, his patients should not have been subjected to operations upon the sympathetic chain. The possibility of incomplete interruption of sympathetic fibres by the cervical approach, as used by Frazier, would also have to be taken into consideration in explaining the negative results. It is possible that, had Frazier used the posterior intrathoracic approach of Adson, as Flothow did, the outcome, in at least a portion of his series, would have been more favorable.

The work of McClintic and Seymour, which appeared in January, 1929, is very interesting. They report what they call a new technic in the surgical treatment of Raynaud's disease. They cite one case in which the cervical sympathetic ganglia and trunk, including the stellate ganglion, were removed on the right side on December 3, 1926, and the rami from the stellate ganglion to the brachial plexus severed on the left side on February 11, 1927. A satisfactory outcome is reported in both instances. While the history and findings, as reported by them, suggest that the patient did not have Raynaud's disease, the fact that relief was obtained from operation would indicate that they were probably dealing with sympathetic pain, and that a certain amount of vasospasm was present before section of the sympathetic fibres. McClintic and Seymour, in this paper, likewise favor ramisectomy to periarterial neurectomy, which is in keeping with the general trend of surgery of this type, although, more recently, McClintic has performed periarterial alcoholic injections of the carotid arteries for the relief of epilepsy, post-encephalitic manifestations and other things. However, it is the opinion of some men that McClintic's latest work has reached print too soon for a proper evaluation and interpretation of it. It has also been suggested that perhaps some cases of convulsive seizures treated by the alcoholic injection method may have been purely hysterical or functional disorders. If this is true, the relief, in at least a part of those cases, is easily explained.

On June 1, 1929, Learmonth and Markowitz submitted their first report on "Studies on the Function of the Lumbar Sympathetic Outflow," and which was published in August of the same year. The title of their first experiments was "The Relation of the Lumbar Sympathetic Outflow to the Sphincter Ani Internus." This study was undertaken to prove the rationale and efficacy of lumbar sympathectomy in congenital idiopathic dilatation of the colon. They conclude that the lumbar sympathetic outflow has the function attributed to it by Gaskell, and they summarize as follows: "The sphincter derives a certain amount of motor innervation through the lumbar sympathetic outflow; the majority of the fibers concerned are postganglionic fibers arising in the inferior mesenteric ganglion,; a few motor fibres are not interrupted in the inferior mesenteric ganglion," and "inhibitory fibers from the lumbar sympathetic outflow pass to the sphincter by way of the hypogastric nerves." This work serves to justify the operation for megacolon as performed at the Mayo Clinic. In September, 1930, a

second report was made on "The Influence of the Lumbar Colonic Nerves on the Distal Part of the Colon." These experiments, like the preceding ones, were carried out on dogs. The final result of their observations in the second undertaking was to the effect that "the lumbar colonic nerve exerts a constant inhibitory influence on the musculature of the distal part of the colon; section of the lumbar colonic nerve invariably leads to an immediate increase in intracolonic pressure," and "section of the lumbar colonic nerve may lead to an increase in the amplitude of the contractions of the colon."

One of the later developments in connection with surgery of the sympathetic system is the work of Learmonth and Braasch, which appeared in October, 1930, in which a resection of the presacral nerve in the treatment of cord bladder was carried out. This was performed in a patient who complained of inability completely to empty the bladder, of difficulty in securing a bowel movement, and of occasional incontinence of the bowels after the use of aperients. The cystogram showed a trabeculated relaxed type of bladder, and other examinations conformed with this, amounts of residual urine as high as 300 c.c. being noted upon different occasions. The details of their operation are given in their paper. It will suffice to say here that the presacral nerve was resected through a left paramedian incision, all connections from the lumbar ganglia being severed as well as dividing the hypogastric nerves, thus interrupting the thoracico-lumbar sympathetic supply to the bladder. Distinct clinical improvement was noted following operation and, while the authors do not feel that conclusions may be drawn from only one case, they were very favorably impressed with their results and they believe that the operation may prove to be distinctly beneficial in certain types of cases of cord bladder.

During the last year Leriche and Fontaine reported some very interesting observations on neuromata of the sympathetic following sympathectomy. They state that they found no neuromata after periarterial neurectomy, but did after ganglionectomy and ramisectomy. In two cases they found a return of symptoms with the development of neuromata, the symptoms disappearing, however, when the latter were resected. This brings up a new complication, of which we have heard very little before, and which would need to be kept in mind when doing extensive sympathetic resections. However, in those cases that I have seen, all of which have been ganglionectomies and ramisectomies after the method of Adson, no indication of neuromata developing has been seen.

In a recent issue of the Journal of the American Medical Association there appeared an article by White on "Diagnostic Blocking of the Sympathetic Nerves to the Extremities with Procaine; a Test to Evaluate the Benefit of Sympathetic Ganglionectomy." In place of the "fever" test, as used by Brown and Adson, White suggests temporarily blocking the sympathetic nerves by direct injection with procaine. The technic of the injection is mentioned in detail in his paper. The end-result of either the "fever" test or the procaine injection into the ganglia should be about the same, as, in either case, the sympathetic control is temporarily abolished. To date I have employed only the "fever" test, in which the mouth and skin surface temperatures in the extremities are compared at regular intervals following the injection of a special typhoid vaccine, and the amount of vasospasm determined by the degree of temperature rise in the periphery over that of the mouth. However, I see no reason why the diagnostic blocking of White could not be used to good advantage, and certainly it is well deserving of honorable mention.

My purpose in presenting this discussion is to bring before our minds at one time what has been and is being done all over the world in this type of surgery. All references in the literature have not been included, but I have attempted to make a fair survey of the outstanding contributions. As far as surgery of the sympathetic system for the relief of disturbances of the extremities is concerned, the modern trend seems to be away from periarterial work and toward operations upon the ganglia and trunks themselves. Whether we do ramisectomy alone or combined with ganglionectomy and trunk resection is not a matter of extreme importance, provided that, in each instance, all sympathetic pathways involved are completely interrupted. It would seem, in view of the work that has been done thus far, that this is more easily and satisfactorily accom-

plished by the use of the ganglionectomy operation. My own experience has been almost entirely with the ganglion and trunk resections and, in addition to obtaining very brilliant results with its use, I have not seen any major deleterious effects either immediate or remote.

Editor's Note: A bibliography of fifty-three references accompanies this paper. The bibliography will appear in the author's reprints.

A SIMPLE DEVICE FOR OBTAINING LOWER LEG TRACTION

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The writer has recently been confronted with the problem of obtaining traction on the lower leg for fractures of the lower tibia and fibula or both. In each case the fractures were oblique or spiral and reduction could not be maintained with a cast. Previous experience has taught us that plaster loses a considerable part of its fixation power when padded with sheet wadding. Complete or partial recurrence of the displacement may occur as soon as the swelling is reduced and the dressing becomes loose.

Although many surgeons, especially the French, are inclined to advocate open operation in such cases, one hesitates to undertake it with its dangers of infection and delayed union when foreign material is used for fixation, if a closed method is possible.

Steinman pin traction through the os calcis with weighted traction or plaster cast, although a simple procedure, is nevertheless an operation with attendant dangers of infection and possible osteomyelitis.

The Sinclair skate and adhesive traction, although simple in application, is not feasible in many of the fractures of the lower leg because of the scanty surface below the fracture site for the application of the adhesive. The constant attention necessary in adjusting this type of traction is a distinct burden.

The apparatus about to be described is not presented with any intent of being original, although the writer has noted no description of it in the literature.

Traction on the lower fragment or fragments is obtained by means of a well fitting, laced, ankle support; into the sides of which traction straps have been incorporated. Counter traction is afforded by using the Thomas splint.

The ankle support may be obtained from any shoe store and should be of the type that laces over the ankle, similar to those worn for supporting the ankles in skating. Varying sizes are carried in stock to fit the ankle.

Canvas traction straps are sewed into the anklet on both sides and may be arranged at any angle so that the resulting traction will overcome the type of deformity.

A special ankle support may be obtained which laces high onto the ankle and lower leg and is valuable in moulding the fragments into proper position in some types of displacement; by lacing tightly in addition to the traction.

A description of the apparatus and its use follows:

The ankle and foot are covered with cotton or sheet wadding and the ankle support applied and laced in place; being sure that the heel, malleoli, and dorsum of the ankle are well padded. A covered Thomas splint is applied to the leg and supported distally by a cross bar attached to the bed. Counter traction on the ring of the Thomas splint may be obtained by pulley traction attached to a cross bar at the head of the bed.

Ten to fourteen pounds weight is applied to the traction straps attached to the anklet by means of a rope passed through a pulley, fastened to a cross bar at the foot of the bed. As much as twenty-five pounds weight may be employed on the lower fragment without undue discomfort for the patient. As previously stated, however, ten to fourteen pounds are usually sufficient to overcome the overriding. At the end of two to three days the fragments are usually found to be well separated and the weight may be reduced to five to eight pounds, which is enough to maintain the bones in an end-on position.

A check-up roentgenogram should be employed when the fragments are separated, at

which time any undesirable deformity may be corrected by moulding or pressure pads.

Ten to fourteen days traction have been found ample in most cases to produce early clinical union, at which time the traction may be removed and a plaster boot applied to complete the convalescence.

Pressure or traction sores have not been encountered with this apparatus. The fracture site is always accessible for physiotherapy and roentgenograms. Once applied, the apparatus requires practically no attention or adjustment.

The following case report is illustrative of the use of the apparatus:

Patient, aged 18 years, admitted to the hospital following an automobile accident with a compound fracture of both bones of the lower right leg. X-ray studies of the leg revealed an oblique fracture of the lower third of the right tibia, two inches above the ankle, with a one inch overriding and posterior displacement of the upper fragment. The fibular fracture was transverse, with only slight displacement.

The compound wound was debrided and closed without drainage. Under the fluoroscope, following longitudinal traction on the leg the tibial fragments were replaced and a long leg plaster cast applied with the knee in slight flexion. Check-up roentgenograms a few days later revealed a posterior displacement of the upper fragment with one half inch overriding.

The fracture was again manipulated under the fluoroscope and a plaster leg cast applied. X-ray through the plaster again revealed the original displacement.

The cast was removed and the ankle cuff traction apparatus with the Thomas splint and fifteen pound traction applied. Three days later the X-ray revealed complete separation of the tibial fragments in good position and the traction was reduced to five pounds. Eighteen days later the X-ray revealed considerable callus, the traction was removed, a plaster boot applied, and the patient discharged home.

In conclusion, I believe the simplicity of the device commends a trial, but it is in no way offered as a panacea for all lower leg fractures. Denial is not made that cases may be met in which operation must be performed because the fragments cannot be reduced in any other way.

FAMOUS MEN IN MEDICAL HISTORY

EPHRAIM McDOWELL AND EARLY AMERICAN SURGERY*

KARL L. SICHERMAN

Surgery has never been a modest science, hiding its light under the bushel of reticence, or underrating its achievements. In every age, surgeons have regarded their situation as we view ours today. A century, even two centuries ago, medical men were firm in the belief that the surgery of their day represented the practical apogee of the art, beyond which no further improvements could be reasonably expected; and, at the same time, they did not hesitate to speak slightingly of their predecessors as brutal fumblers in ignorant darkness. In 1777, for example, Percival Pott, at St. Bartholomew's in London, wrote, "No man, however slightly acquainted with the history of surgery, can have the smallest doubt of the superiority which its present state justly claims over that of our predecessors. . . . The surgery of the last century was coarse, cruel, painful, and tedious."

Surely the modern attitude towards the surgery of the nineteenth century could be expressed in these same words; yet, in 1840, Professor C. B. Tilanus, a renowned surgeon of Amsterdam, felt himself justified in saying that while surgery "was not as yet quite perfect, it was within measurable distance of being so." These words, one must remember, were uttered some years before the advent of ether anesthesia, antisepsis, asepsis, and the X-ray, to say nothing of the highly specialized instruments and the skilled assistants today considered essential to surgery. Again, Samuel D. Gross, in 1879, spoke casually of the "comparatively crude condition" of surgery in 1830. However, the complacence of past writers in viewing their own times is easily forgiven; for they merely prove the ancient truism that the immediate participants of an era always lack the perspective which is essential to a proper evaluation of it.

The fact remains that, whether men realized it then or not, surgery at the beginning of the nineteenth century was a decidedly limited field, viewed in the light of modern knowledge. Even in America, where there existed fewer onerous traditions to delay the acceptance of new ideas and of progress,

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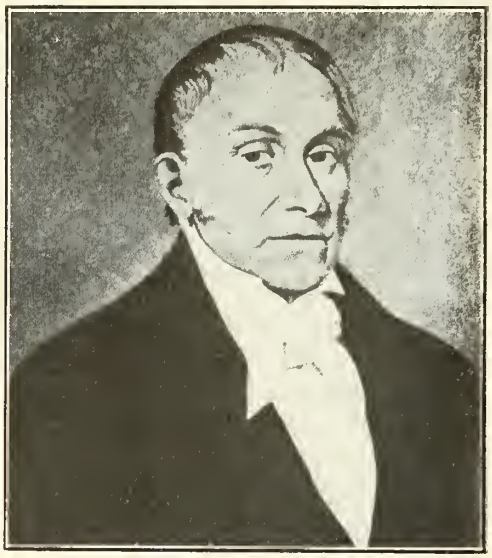
surgery retained all the shortcomings of England and the continental countries. Radical innovations were frowned upon, and mortality rates were almost high enough to furnish proof of the still prevalent belief that disease was the reward of sinning. But



Dr. Ephraim McDowell
(from Schachner's "Ephraim McDowell, Father of Ovariotomy")

while the science in America was almost as static and unprogressive as it was in Europe, it must not be imagined that America was without her competent surgeons. New York, Boston, and Philadelphia were even then important medical centers, whose surgeons had received excellent training not only at the best schools of Europe, but also on the battlefields of the Revolutionary War. There was, in fact, a sufficiency of capable, even brilliant operators, but their fields were restricted by the relatively undeveloped stage of the surgery of the day. Let us consider, for a moment, the problems which surgery solved, or attempted to solve, one hundred and thirty years ago.

Fractures, of course, belonged to surgery. In conjunction with them occurred an enormous number of amputations, necessitated by the severe infections which so frequently set in following compound fractures. As a matter of fact, infection was expected in practically every wound, and most early authors speak of "healthy (or laudable) pus" appearing a few days after operations on extremities. Tetanus, too, is often mentioned as a complication of wounds. Other than fractures, dislocations, amputations, and traumatic wounds, the surgeon in 1800 could treat osteomyelitis, hernia, and aneurysms of peripheral vessels; and he could cut for stone. Lithotomy, in fact, was one of the most successful operations of this period, and carried with it a surprisingly low mortality rate. The removal of tumors of the breast, the neck of the uterus, the lips, the tongue, and the skin was commonly attempted, and often with success, although no attention was paid to the adjacent lymph nodes in cases of malignancy, so that recurrences were common. The records contain scattered accounts of such procedures as resection of the lower jaw, excision of the parotid gland, an attempt to remedy a dislocation of the crystalline lens, and a repair of a ptosis of the eyelid by a plastic operation—operations which even today are not frequently encountered.

Pre-operative and post-operative treatment can best be described by the one word, heroic. Counter-irritation was a principle vigorously applied, in the form of blistering, cupping, the moxa, or cautery. Either venesection or leeching was done in the presence of almost every complication, especially those featured by a full, bounding pulse, whether the condition was one of coma or delirium, anasarca or emaciation. In the surgical pharmacopeia, two drugs, mercury and opium, were used in a wide variety of cases and in perfectly enormous doses. The operations themselves demanded three things of the surgeon: a thorough working knowledge of anatomy, courageous judgment, and speed. Surgery, moreover, was not a profession for the soft-hearted or squeamish, for, since there was no anesthesia, the sufferings of the patients must have been extreme. The patient's sensations, however, were evidently considered unimportant, for, as the author of a standard textbook of surgery put it in 1824, "Severe pain should never be an obstacle." One marvels at the fortitude of these patients in submitting to major operations, and at their ability to recover following the loss of enormous amounts of blood, both at operation and from frequent therapeutic phlebotomy.

In this brief sketch of early American surgery, one striking feature is discernible simply because it is not mentioned. One notices that there is no reference to abdominal surgery. The reason for the omission

is, obviously, that there was no abdominal surgery. At this time, the human peritoneum was regarded as an inaccessible holy of holies. It was considered with fearful awe and deep respect, by tacit agreement inviolable, and was the one human organ never tampered with. To be sure, cesarean section was occasionally practiced, but only as a rather desperate last resort, usually against the surgeon's better judgment; and in traumatic and war wounds of the abdomen attempts were made at repair; but, in general, the abdomen was never opened. It is inconceivable that there were not men who felt that laparotomy should have been performed in some of their cases, but the fact remains that there were none who were willing to overcome their prejudices so far as to attempt it. This was the situation in the early years of the nineteenth century—not only in America, but in Europe as well.

And then, in 1817, an American frontier surgeon of Danville, Kentucky, announced to his incredulous professional brothers that the abdomen could be opened with comparative impunity, with the publication of the brief report of his first three cases of ovariotomy in the *Eclectic Repertory and Analytic Review,* a scientific journal published in Philadelphia. That man was Ephraim McDowell, to whose courage and convictions the world owes its immeasurable gratitude; for with his first report of cases, abdominal surgery began. His first case was reported as follows:

"In December, 1809, I was called to see a Mrs. Crawford, who had for several months thought herself pregnant. She was affected with pains similar to labour pains, from which she could find no relief. So strong was the presumption of her being in the last stage of pregnancy, that two physicians, who were consulted on her case, requested my aid in delivering her. The abdomen was considerably enlarged, and had the appearance of pregnancy, though the inclination of the tumor was to one side, admitting of an easy removal to the other. Upon examination, per vaginam, I found nothing in the uterus; which induced the conclusion that it must be an enlarged ovarium. Having never seen so large a substance extracted, nor heard of an attempt, or success attending any operation, such as this required, I gave to the unhappy woman information of her dangerous situation. She appeared willing to undergo an experiment, which I promised to perform if she would come to Danville (the town where I live), a distance of sixty miles from her place of residence. This appeared almost impracticable by any, even the most favourable

The First Ovariotomy
(from Schachner's "Ephraim McDowell, Father of Ovariotomy")

conveyance, though she performed the journey in a few days on horseback. With the assistance of my nephew and colleague, James McDowell, M.D., I commenced the operation, which was concluded as follows: Having placed her on a table of the ordinary height, on her back, and removed all her dressing which might in any way impede the operation, I made an incision about three inches from the musculus rectus abdominis, on the left side, continuing the same nine inches in length, parallel with the fibres of the above named muscle, extending into the cavity of the abdomen, the parietes of which were a good deal contused, which we ascribed to the resting of the tumor on the horn of the saddle during her journey. The tumor then appeared in full view, but was so large that we could not take it away entire. We put a strong ligature around the fallopian tube near to the uterus; we then cut open the tumor, which was the ovarium and fimbrious part of the fallopian tube very much enlarged. We took out fifteen pounds of a dirty, gelatinous looking substance. After which we cut through the fallopian tube, and extracted the sack, which weighed seven pounds and one half. As soon as the external opening was made, the intestines

rushed out upon the table; and so completely was the abdomen filled by the tumor, that they could not be replaced during the operation, which was terminated in about twenty-five minutes. We then turned her upon her left side, so as to permit the blood to escape; after which, we closed the external opening with the interrupted suture, leaving out, at the lower end of the incision, the ligature which surrounded the fallopian tube. Between every two stitches we put a strip of adhesive plaster, which, by keeping the parts in contact, hastened the healing of the incision. We then applied the usual dressings, put her to bed, and prescribed a strict observance of the antiphlogistic regimen. In five days I visited her, and much to my astonishment found her engaged making up her bed. I gave her particular caution for the future; and in twenty-five days she returned home as she came, in good health, which she continues to enjoy."

Mrs. Crawford, the heroine of this particular noble experiment, who had submitted calmly and resignedly to an operation which had never been done before, lived for thirty-two years afterwards, and died at the ripe old age of seventy-nine. Her courage not only gave to countless other suffering women the boon of ovariotomy, but added thirty-two years to her life, and brought honor to America.

In the same paper, McDowell reported two other cases which he had operated, with complete recovery in both.

As might have been anticipated, the paper brought forth a storm of skepticism, ridicule, and doubt. It was not to be expected that anyone, at this time, would realize that McDowell's brief, simple contribution to the surgical literature of the day marked the birth of abdominal surgery. That McDowell himself was not fully aware of the significance of ovariotomy is attested by the fact that it was not until eight years after his first case that he consented to publish an account of the first three cases in the *Eclectic Repertory,* after a good deal of persuading and cajoling on the part of his friends and relatives.

Because of the novelty of the operations, and the loose way in which they were reported, attempts were made, here and in Europe, to deny their authenticity, to cast discredit upon McDowell's veracity, and to dispute the claims which were offered for his priority as an ovariotomist. Perhaps the most offensive of these detractors was Dr. James Johnson, then editor of the *London Medico-Chirurgical Review,* a periodical widely read in the United States, who sneered openly at the idea of ovariotomy, and bluntly said that he could not bring himself to believe such procedures possible. Other men referred to ovariotomy as a brutal and murderous operation; and in general, those who were not indignant about it gave it a cold reception. For example, in 1816, McDowell had sent a copy of his paper to Phillip Syng Physick, of Philadelphia, asking that gentleman to have it published if he found it "worthy." Dr. Physick, one of the outstanding figures in American medical history, and later known as the "Father of American Surgery," took absolutely no notice of the paper, and did not acknowledge to McDowell, his pupils, or any one else that he had received it. Like the rest of his profession, he was probably incredulous, and must have considered the author of the brief paper a backwoods impostor. Dr. Thomas James, the editor of the *Eclectic Repertory,* deserves a great deal of credit for the encouraging interest he displayed by publishing the article, in the face of Physick's unkind indifference. In spite of the general prejudice against ovariotomy, however, McDowell continued his work, and in 1819 published the report of two more cases, which, like the first three, were given little credence.

One naturally wonders what sort of man this Ephraim McDowell was, who dared to do what no one before him had dared even to attempt. He was born on November 11, 1771, in Rockbridge County, Virginia, of Scotch-Irish parents. His father was a prominent and well liked public character, who held many high positions of trust, both in Virginia and in Kentucky, to which state he brought his family when Ephraim was thirteen. He was the first United States judge in Kentucky; he was a member of the convention which drafted the constitution of that state; and he had been a commissioned officer under Washington in 1755. Ephraim was the ninth of eleven children. He received his early education at a classical seminary in Georgetown, Kentucky. When he was nineteen, he returned to Virginia to begin his medical studies under Dr. Alexander Humphreys, in whose office he re-

mained for two or three years. Little is known about Dr. Humphreys, except that he usually had several students around his "shop," learning whatever they could of the mysteries of medicine; and that he was a graduate of the University of Edinburgh. Perhaps this fact influenced McDowell himself to study abroad, for in 1793 he enrolled at the University of Edinburgh, where he remained for two years. Among his compatriots at Edinburgh during these years were several other young men who were destined to become important figures in American medical history, notably Samuel Brown, David Hosack, and John Davidge, all of whom later appeared in the rôles of founders of medical schools in this country.

During his first year at Edinburgh, McDowell studied privately under the illustrious John Bell, who was probably the most brilliant and highly gifted of the Scotch surgeons of that day, and who must certainly have played an important part in establishing some notions of ovariotomy in the young student's mind. Bell's tremendous energy, his abhorrence of falsehood and compromise, and his eloquence in portraying the sufferings of women with diseased ovaries must have made an enormous impression on McDowell, and inspired him with the unrealized hope that he might some day be able to contribute some measure for their relief.

In 1795, the young physician returned to Danville, then a frontier town of less than five hundred inhabitants, to begin the practice of medicine and surgery. He did not wait to obtain a degree from the University of Edinburgh, and, in fact, managed to get along without one until 1823, when the University of Maryland honored itself and McDowell by awarding him the degree of Doctor of Medicine in recognition of his achievements in surgery. From the very start, McDowell was remarkably successful. Danville, at that time, possessed an importance out of proportion to its size, and what it lacked in numbers it more than counterbalanced in the connections and the character of its inhabitants. Thus it was that although McDowell began his career in a small frontier town, his extensive and influential connections, the reputation of his foreign training, and the absence of any serious competition, quickly brought results. He rapidly developed an extensive practice covering what was then the entire Southwest, and very shortly came to be recognized as the first surgeon west of Philadelphia. His practice covered hundreds of miles around, even though there were no roads or stagecoaches, and even though he had to go on horseback when he was needed on the far border of the frontier. Often such a call meant an absence from home for many days; and sometimes the surgeon had to perform difficult surgical operations far from any of the comforts of civilization. The Indians were still menacing, and actively resenting, the advance of white men into their territories, and wolves were so plentiful in 1810 as to justify the passage of a scalp law aimed at their extermination. When one considers that McDowell labored under disadvantages which are almost inconceivable in modern surgery, and when one remembers that he worked without anesthesia, trained helpers, and all of the "aids, comforts, and safeguards" of present day practice, his achievements seem almost more than human. Working alone, handicapped by the crudeness and simplicity of his wild setting, he not only performed all of the operations known to surgeons of his day, but in addition was able, by virtue of his skill, courage, and judgment, to open up what has proven to be an enormous and fruitful field of surgery.

McDowell ranked high as a lithotomist, and for some years was the only surgeon in Kentucky to perform lithotomy. The exact number of these operations he performed is not certainly known, but according to Gross, "he had, up to 1828, two years prior to his death, executed it thirty-two times, and that without the loss of a single patient." It is interesting to note that one of his patients was James K. Polk, later president of the United States, whom he successfully treated not only for stone but also for a troublesome hernia. He paid a good deal of attention to hernia, and often operated for strangulation. There was, in fact, no operation which he had not attempted at the time; and it is said that he was the first surgeon in this country to remove the parotid gland, and one of the first to perform a resection of the mandible. Although he was a general practitioner, surgery was his love. For medicine, as such, he had small regard, and often remarked that the use of drugs was "more of a curse than a blessing to the human race"; but sur-

gery he spoke of as "the *certain* branch of the healing art."

It is a matter of profound regret that McDowell was extremely reticent about appearing in print. Unfortunately, his only contributions to medical literature were his two papers on his first five cases of ovariotomy, published in 1817 and 1819; he wrote nothing at all about the eight cases which followed these. Of his whole series of thirteen cases, eight were completely successful. As Dr. Gross suggests, in McDowell's long and varied surgical practice he must have accumulated a vast amount of knowledge of great value, and it is surgery's loss that he failed to keep records of his experiences. It is apparent that he did not desire fame, nor was he bothered by notoriety.

When he published his second paper, in 1819, McDowell probably had begun to appreciate the potentialities of ovariotomy. That he believed that reforms were necessary in surgery is manifested by the following remarks from that paper, in which he alludes to several criticisms which had appeared regarding his previous report:

"I thought my statement sufficiently explicit to warrant any surgeon's performing the operation when necessary without hazarding the odium of making an experiment, and I think my description of the mode of operating, and of the anatomy of the parts concerned, clear enough to enable any good anatomist, possessing the judgment requisite for a surgeon, to operate with safety. I hope no operator of any other description may ever attempt it. It is my most ardent wish that this operation may remain to the mechanical surgeon forever incomprehensible. Such have been the *bane* of the science; intruding themselves into the ranks of the profession, with no other qualification but boldness in undertaking, ignorance of their responsibility, and indifference to the lives of their patients; . . . they cut and tear with fearless indifference, utterly incapable of exercising any judgment of their own in cases of emergency; and sometimes without possessing even the slightest knowledge of the anatomy of the parts concerned. . . . The preposterous and impious attempts of such pretenders, can seldom fail to prove destructive to the patient, and disgraceful to the science. It is by such this noble science has been degraded in the minds of many, to the rank of an art."

Even the corroboration of the additional cases, however, failed to convince the world. For many more years ovariotomy was spoken of as butchery and unnecessary cruelty. A few hardy souls in America sympathized with the pioneer's views; but in general, all surgeons who knew of McDowell's work, and most of those who did not, refused to admit that ovariotomy was ever justifiable, or likely to be accepted. In 1821, to be sure, another American surgeon, Nathan Smith, entirely unaware of the fact that McDowell had preceded him by eleven years, performed a successful ovariotomy; and while it is possible that there were, in addition, other courageous surgeons who might have done the operation here or abroad between 1809 and 1821, there are no records of any other cases.

Now it happened that when McDowell sent the report of his first three cases to Dr. Physick, in 1816, he also sent a copy to his old master, John Bell, in Edinburgh. Bell, however, was travelling in Italy at the time, and did not return home before his death in 1820, so that the paper never reached him. It fell, instead, into the hands of John Lizars, Bell's associate, in whose care he had entrusted his affairs during his absence. Lizars, after several years of deliberation, and influenced largely by McDowell's report, finally resolved to attempt ovariotomy, and in 1825 published a detailed account of his first four cases. His paper was notable for three things: first, in his review of the literature he mentioned McDowell's results, and quoted his paper verbatim in a footnote; second, unlike McDowell, who was careless of detail and chary of words, Lizars presented a paper complete in every detail, polished and well written, and done in the best scientific manner; and third, it succeeded, largely by virtue of its author's reputation, in awakening general interest in ovariotomy, at least in Europe, by attracting the attention of surgeons to the operation. Of Lizars' four cases, two recovered, one died, and the fourth was an utterly disgraceful failure due to a mistaken diagnosis.

Although the prejudice against abdominal section now began to be overcome, it was, nevertheless, a good many years before ovariotomy came to be accepted as more than a mere experiment. Nothing was done, in fact, at home or abroad, to revive the operation until 1842, when it received a new

impulse at the hands of Dr. Charles Clay, of Manchester, England, followed shortly after by Dr. Frederick Bird, of London, and, in America, by the Atlee brothers, of Philadelphia. Dr. John Atlee performed his first ovariotomy in 1843, while Dr. Washington Atlee first removed a diseased ovary in 1844. Up to 1880, these two brilliant surgeons had saved the lives of more than three hundred women with ovarian tumors. Beyond a doubt, to them is due the credit for finally establishing ovariotomy as a valuable surgical procedure in spite of the opposition and derision which greeted their early efforts.

But the world can never measure how much more credit is due Ephraim McDowell. When he died, in 1830, ovariotomy was a rare operation, with a relatively high mortality rate, saving from death only a very few of the thousands of women suffering from ovarian tumors when its wider application might have saved hundreds of them. The fruit of his labors was posthumous, a fate all too often accorded the really great benefactors of the human race. He did live to see Dr. Johnson, who had written so disparagingly of McDowell's first cases, retract his earlier sneering remarks, admit that ovariotomy was both feasible and desirable, and apologize (albeit with rather poor grace) "to God, and Dr. Ephraim McDowell, of Danville"; but he did not live to see his operation accepted generally in practice. Had he lived in France, he would have been elected to the Academy of Sciences and to the Legion of Honor; in England he would have been knighted. In his own land, the prophet was without honor until 1852, twenty-two years after his death, when Dr. Samuel Gross, then a resident of Louisville, presented the Kentucky State Medical Society with a sketch of the life and original work of the first ovariotomist, proving McDowell's priority in abdominal section beyond all dispute. Since that time, the profession has known that "pelvic and abdominal surgery began with ovariotomy"; and "ovariotomy began with McDowell."

To be sure, the impetus which McDowell's work gave to surgery was slow in being felt, but in time it led to the enormous extension of the whole field of abdominal surgery. As the years passed, operators grew more and more bold, until, when ancient taboos and prejudices had been destroyed by the invasion of regions previously held as sacred and never to be meddled with, there came to be no territory forbidden to surgeons of judgment. Within fifty years of McDowell's death, Samuel Gross, in speaking of the recent progress of abdominal surgery, remarked that it was then becoming common for surgeons to extirpate the gall bladder, the uterus, the spleen, or a kidney; and that a friend of his in Columbus, Ohio, had recently wired him of the successful removal of the liver from a woman whom he expected to recover, but who unfortunately died the next morning, when autopsy revealed that, instead of the liver, only an ovary had been removed. Gross added that he expected at any time to read newspaper accounts of "the successful amputation of the head without any serious detriment to the patient's mental faculties, despite the assertion of . . . , a French surgeon, that this portion of the body, which he invariably designates as the encephalic extremity, 'can not be removed during life without stopping respiration and causing other inconveniences which, unhappily, render the operation inadmissible." The statement is still true, but in viewing the rapid progress of brain surgery today, one wonders how soon it will be refuted.

In 1879, the citizens of Kentucky paid tardy honor to the fame of Ephraim McDowell when they caused a memorial monument to be erected to his memory in Danville. In 1909, the American Gynecological Society paid further tribute to the first ovariotomist by celebrating the centennial of the first ovariotomy, which they recognized as superior to all other strictly surgical operations in its life-prolonging results for women. J. R. Goffe, speaking at the celebration, referred to ovariotomy as "an operation fraught with happiness," and expressed the sound belief that it "ranks second only to one other great discovery which this country has given to the world, viz., anesthesia." No one can doubt the truth in these words when he considers how many thousands of years have been added to the lives of women, all of which would have been lost had ovariotomy never been performed.

MICHIGAN DEPARTMENT OF HEALTH

C. C. Slemons, M.D., Commissioner
LANSING, MICHIGAN

AUTOMOBILE DEATHS FOR 1930

Automobile accidents must be considered as a most important cause of death. In 1930 they ranked eighth among the causes of death, being exceeded only by heart disease, cancer, cerebral hemorrhage, tuberculosis, chronic nephritis, pneumonia and premature birth.

There were 1,560 deaths due to automobile accidents in Michigan in 1930, a slight increase over the 1,541 of 1929. Of this number, 1,443 were due to automobiles alone; 90 were due to railroad and automobile accidents; and 27 were due to street car and automobiles. In 1929 a total of 1,418 were due to automobiles; 101 to railroad and automobile; and 22 to street car and automobiles.

It will be observed that the number of deaths due to railroad and automobile collision was reduced more than ten per cent. It is probable that this is due, in a measure at least, to the elimination of grade crossings, and as this factor is gradually improved we may hope to greatly lower this cause of death.

To the general elimination of interurban cars in this state during the past few years is probably due the slight decrease in deaths due to street car and automobile collisions. Of course, street cars are still running, but heretofore many accidents have been due to

interurban collisions, and it is here that the reduction has come.

In considering the 1,443 deaths due to automobiles alone, it must be remembered that these deaths represent pedestrians as well as riders in automobiles.

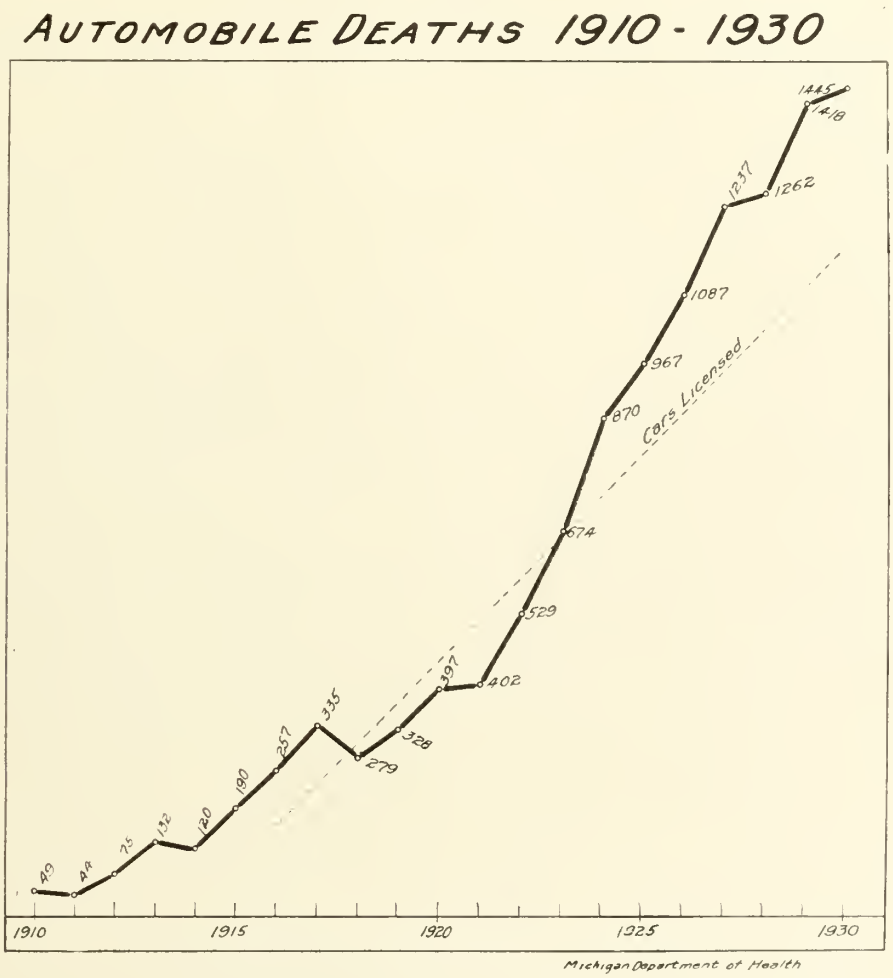
It is interesting to note that prior to 1910, automobile deaths were not sufficiently significant to be kept separate from those attributable to general violence. In 1910, the year in which they were first separated, there were only 49 deaths, equivalent to about one-eighth of one per cent of the total number of deaths. By 1930 they had risen to 2.75 per cent of the total deaths.

The accompanying map and chart show graphically the story. The map illustrates the number of deaths in each county. The historical chart shows the increase in the number of deaths due to automobiles alone, not including collision with heavier vehicles, from 1910 to 1930, inclusive, and also the trend of the expectancy due to the number of automobiles licensed. It must be borne in mind, however, that the increase in the number of automobiles licensed works in two ways—in the one case by increasing the number of persons using automobiles and in the second case by increasing traffic congestion. The two factors are equally important.

Consideration of the number of deaths per 10,000 automobiles registered brings out some interesting points. Six counties had no automobile deaths—Benzie, Kalkaska, Keweenaw, Oscoda, Missaukee and Roscommon. For the state as a whole, there were 10.7 deaths for each 10,000 automobiles registered. Wexford County, with a rate of 28.2 deaths per 10,000 cars, was the highest in the list of counties.

Many national committees and organizations are at work on the problem of reducing deaths from automobile accidents, and judging from the statistics of Michigan alone there is ample room for action.

W. J. V. D.



Courses for Graduates

The Department of Post-Graduate Medicine
and
The Michigan State Medical Society

Announce

The Third Annual General Practitioners' Course
to be given at the Receiving and Herman
Kiefer Hospitals, Detroit, June 15 to 27, 1931

Realizing that the responsibilities of most physicians in general practice require a working knowledge in all fields of Medicine, this Course has been arranged to afford the widest possible opportunity to come in touch with the newer methods of diagnosis and treatment.

While the subjects are scheduled so that those especially interested in Medicine or in Surgery may avail themselves of one week's instruction in either of these fields, the two-weeks' period is recommended as much more adequate for a well-rounded review.

The Course will consist of 60 hours of instruction, the daily schedule being from 8:00 A. M. to 1:00 P. M.

In addition to the Practitioners' Course, periods of one week each have been arranged in the following divisions, some of which are given upon the completion of the two-weeks' period and others at intervals throughout the year:

Fractures	Mental Hygiene
Proctology	Growth and Development
Tuberculosis	Serology
Cardiology	Roentgenology
Gastro-enterology	Physical Therapy
Allergy	Laboratory Technic

Metabolic and Nutritional Diseases (adults)
Diseases of Blood and Blood-forming Organs
Gynecological Pathology, Gross and Microscopical
Infectious Diseases of Infancy and Childhood
Infant Feeding and Nutritional Diseases of Childhood

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Director of Post-Graduate Medicine
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JUNE, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

CULTURE IN MEDICINE

Among our exchanges is The Journal of the Association of American Medical Colleges, which, though different from the rest, contains papers of unusual interest. The March number contains two papers entitled, respectively, "The Relative Value of Cultural Courses in Premedical Training," by Dean Thorpe of the University of Pennsylvania School of Medicine, and "The Cultural Value of the Medical Curriculum," by Dean E. P. Lyon of the University of Minnesota School of Medicine.

Among other things the discussion by Dr. Thorpe includes premedical education. Does a knowledge of chemistry, biology and physics as required of candidates at the present time make them better students than those who entered upon the study of medicine with less science and more of what might be called humanities? Four students who ranked highest at the University of Pennsylvania Medical School during the past twenty years had the minimum of scientific requirements and a fairly good classical education, all of which led the writer to conclude "that it is not necessary for the good student to prepare himself for a career in medicine by electing an inordinate amount of chemistry, biology and physics in college." In the discussion following the papers, Dr. Simpson of McGill University Medical School agreed that it is not the amount of science in the preliminary education of the medical student that counts so much as the thoroughness of training he has received. In his experience in the past five years, four or five students stood out as exceptional. Only one had a B.S. degree; of the others, one majored in economics, one in Latin and Greek, and one in history. We heartily agree with these opinions; it is the student who has been well trained, who has learned how to study, who makes the best showing, and it matters very little on what subjects he has exercised his wits, except that he is apt to do a great deal better if the studies are those of his own choice, than subjects that are made compulsory for him.

"From the earliest times," says Dr. Thorpe, "the physician has held a high position in society which he has maintained because he was usually a man of broad learning. Are we not running the risk of turning out men who will be mere scientific robots? Are we not even now turning out men who split infinitives with the same sang-froid as they split the right rectus muscle to remove an inflamed vermiform appendix?" Culture would seem to include attention to the amenities of life. He quotes Dick Steel of *Spectator* fame. "A gentleman who speaks coarsely has dressed himself clean to no purpose." And Dr. Thorpe concludes, "Let us advise young men to ground themselves in the principles of science and to acquire, if possible, a taste for history, philosophy, literature and art so that they may look forward to the years of middle age and truly say with Virgil, *'Forsan et haec olim meminisse Juvabit.'* "

Dr. Lyon sums up the case for culture as

follows: "Culture is characterized by a catholicity of viewpoint; it is characterized by a universality of interest, by an internationalism of spirit. Culture is expansive, not limited; it ranges, it is not confined. Finally it is tolerant; and tolerance means sympathy." He goes on to say that since the medical profession exhibits many examples of the highest culture, the medical curriculum is one of the avenues through which one may obtain a cultural experience.

Culture is an elusive entity; it is of a class of words such as light, life, death, difficult to define, yet its manifestations are clear to everyone. Nor in our opinion can culture be acquired by memorizing Elbert Hubbard's scrap book or by fifteen minutes a day with Eliot's five-foot book-shelf, as interesting as these may be. We can see how such a course might make of a man or woman an intolerable bore.

John Cowper Powys quotes the following definition which at least puts one on his guard against associating culture too closely with the subjects which are commonly included in education. "Culture is what is left over after you have forgotten all you have definitely set out to learn." There has appeared recently a little book designed to be a best seller entitled "The Road to Culture." We are pessimistic enough to doubt that, even following this road, one might ever arrive.

Externally we associate culture with neatness of attire, with carefulness combined with ease in speaking, with a voice that is not unpleasant. We can hardly conceive of a cultured man who is not educated, but there are many educated persons who are anything but cultured. The cultured life may be built upon a book foundation. The cultured person is critical in his outlook on life. In other words, he does his own thinking and accepts truth only on evidence; yet, he is tolerant where tolerance can be considered a virtue, which it is not always. He should aim at accuracy, avoid cock-sureness of statement, and never hesitate to acknowledge his limitations. Yet all this is not a definition. We are inclined to place the term *culture* in the same category as *personality*, a word we were never able to define to our satisfaction.

Do not forget the date of the American Medical Association which meets this year in Philadelphia. The dates are June 8 to 12, inclusive.

DETROIT DOCTORS' INCOMES

A short time ago we received Bulletin No. 10 issued by the Committee on the Cost of Medical Care. Interesting as the subject naturally is, dealing with matters which intimately concern the medical profession of Detroit, it is more so since the Bulletin is largely the work of Dr. Nathan Sinai, who has been connected with the Department of Hygiene and Public Health of the University of Michigan Medical School. Dr. Sinai has been also an important worker in connection with the activities of the Joint Committee on Public Health Education, in which capacity he has become known personally as well as favorably to a large number of the members of the Michigan State Medical Society. He has the point of view of the physician which is so rare with those outside the medical profession who presume to study its problems. Dr. Sinai is peculiarly qualified to make such a study as outlined in this Bulletin and to generalize from his findings.

The title of the publication is, "A Study of Physicians and Dentists in Detroit, 1929." We cannot do justice to it in the compass of an editorial. However, a few of the statistics gleaned therefrom will not be without interest, it is hoped. Per capita expenditure for physicians' services of Detroit for the year 1929 is estimated at $9.33 and $5.46 for dental care. Detroit physicians have spent on an average seven and one-half years in preparation for their profession, and in addition to this approximately half of them have supplemented their medical training by some post-graduate study during the past decade. Nearly 60 per cent of the physicians of Detroit limit their practice either partially or wholly to one or two definite fields. Even the general practitioners exclude one or more branches of medicine.

Detroit doctors are apparently doing their part very satisfactorily in the matter of preventive medicine in the way of diphtheria immunization, smallpox vaccinations and general health examinations.

About thirty per cent of the patients in Detroit are estimated to receive treatment at less than the private physician's usual fee. Seven per cent, on an average, receive free care. These figures refer to the year 1929, when the survey was made. The number of patients receiving free care at the present

time is enormously in excess of this estimate.

According to Bulletin No. 10 the range of physicians' incomes varies from approximately $1,500 to $50,000, of which 50 per cent is used strictly for professional expenses, leaving net incomes which range from actual deficits to $27,000. The income of the "average doctor" is placed at $4,500.

Detroit had 761 dentists (1929). The dentists are reported as having higher incomes than physicians, which incomes do not vary over so wide a range as do those from medicine. No dentist reported a net income of less than $500, although 4 per cent of the physicians fell in this class. From the report it appears that, so far as physicians and surgeons are concerned, Detroit has reached the "point of saturation." Of the two professions, the writer concludes, "It appears that Detroit has more need for additional dentists than for additional physicians."

The study was made in collaboration with a committee appointed by the Wayne County Medical Society, the members of which are all well known as responsible members of the profession. The report, which is fifty pages in length, contains a large amount of tabulated information which is of the utmost interest not only to the medical and dental professions of Detroit but to the members of the entire Michigan State Medical Society as well. The work intrinsically has been well done, and Dr. Sinai and his assistant, Mr. Alden B. Mills, are to be commended on the thoroughness with which the survey has been made.

WRITING MEDICAL PAPERS

No one realizes more than the editor the danger of attempting to give advice on a subject such as this. Any advice given, however, is the outcome of experience he has had in editing medical papers. Let us begin by saying that the majority of contributions to this Journal have been prepared with evident care so that the editorial function has been an easy matter. This editorial is addressed to the exceptions.

The ordinary business letter-head size sheet (8x11 inches) is used by the vast majority of writers and therefore for convenience should be employed by all.

It would seem almost needless to say that all papers should be typewritten, were it not that we have received papers written by pen, and one or two by lead pencil.

Occasionally, in an effort to be concise, writers will omit the article and sometimes auxiliary verbs as well, so that their sentences read like telegrams. "Incision was made along border of erector spinæ, latissimus dorsi separated and kidney fat exposed." This style of writing is adequate for taking notes for private perusal, but submitted for publication it requires elaboration by the use of the definite article and auxiliary verbs. Avoid an abbreviated style.

Papers are frequently submitted which show evidence of having been dictated to a stenographer and not having been revised by the author. The stenographer is never responsible for any typographical errors that may appear in the final copy. The author (except the editor should the paper find its way into print) must always shoulder the blame for such inaccuracies. One should read his paper over carefully after it has been finished, as he thinks, to his liking. Better if he has the opportunity of reading it aloud to a critical friend, and here we hesitate to call any one a friend who is not critical in such circumstances. Papers should be written double space. Often they come to us written single space, which leaves no room for editorial revision. And here we would say, *never submit a carbon copy* for the printer. Give the typesetter the best possible opportunity to get your paper into type accurately. The carbon copy should be retained by yourself to guard against possible loss of the original. When the paper appears in print the carbon copy may then be destroyed.

Peculiar as it may seem, an author occasionally forgets to have his name typewritten at the head of his paper. The name and address should appear clearly at the head of the first page and the different pages should be securely fastened together with a staple or paper fastener that will prevent them from becoming detached and therefore lost.

In the course of editing a Journal scarcely ever has the editor not found medical writers who disregard one or more of the precautions here mentioned.

The matter of punctuation appears to be a *bête noire*. This may be attributed to the fact that these persons were taught, or they learned, hard and fast rules in regard to punctuation when they were at school.

There is no right or wrong about it because, strictly speaking, there is no fixed standard of correct punctuation. Judged by the standard taught us early in our educational career almost every noted author has been found to err. Punctuation is like style, it is best described by the words *good* or *bad,* rather than right or wrong. And yet this very fact leaves room for careful study. Bad punctuation can defeat the author's attempt to express himself. Hence the necessity for the studied use of punctuation marks. A very general rule is to avoid too frequent use of them. A simple direct statement requires only a period. The more involved a sentence in the matter of dependent clauses the more necessary to separate such clauses to aid the eye in the reading. Punctuation marks are an aid to the eye only.

The rules of grammar must be obeyed, but it is not so necessary to know them, as is commonly thought; clear thinking produces clear writing without much reference to the laws of language. The advice of Lindley Murray, the pioneer grammarian, is good today. Murray was a Pennsylvania Quaker of the eighteenth century who spent most of his adult life in England. Murray wrote:

"Perspicuity is the fundamental quality of style: a quality so essential in every kind of writing, that for the want of it nothing can be done. It is not to be considered merely as a sort of negative virtue, or freedom from defect. It has higher merit; it has a degree of positive beauty. . . . Whatever a man conceives clearly, he may, if he will be at the trouble, put into distinct propositions, and express clearly to others, and on no subject ought any man to write, on which he cannot think clearly."

How many of our best writers have discovered late in life that they had something to say and have delivered themselves in the most beautiful English without much preliminary training. However, training in writing is not by any means to be ignored.

After the paper has been typewritten, the author may often have occasion to revise it either by making deletions or additions, or both. If such corrections occur at all frequently, it is better that the paper be rewritten before submitting it for publication. The cleaner the copy the more likely is it to be free from errors when it finally appears in print.

There are a number of handbooks on the preparation of medical papers which we can recommend, among them the little handbook prepared by Dr. Fishbein, Editor of the Journal of the American Medical Association; The Writing of Medical Papers by Mrs. Mellish, Editor of the Mayo publications, and Notes on the Composition of Scientific Papers by Clifford Allbutt. Any one writing as many as two medical papers a year should possess all three of these works dealing with the writer's craft. Those who are interested in the art of writing will find A Writer's Notes on His Trade, by the late C. E. Montague, one time editor of the Manchester Guardian, and The Art of Writing, by Sir Arthur Quiller-Couch, of unusual interest.

MEDICAL GRADUATES

June is the month of the year in which the harvest of college graduates matures. We are concerned more immediately, however, with the recruits to the ranks of medicine. The United States has never lacked medical schools, at least since its early colonial history. In 1904 there were 162 schools, the majority of which were of the proprietary type known to the older physicians practising today. We have never felt disposed to throw stones at the proprietary school. Many of them served their day and generation well; many, on the other hand, were very mediocre, and on the basis of their service to society had no legitimate reason for existing. The number of medical schools has been reduced to sixty-six, whose work is accepted by the Council on Medical Education of the American Medical Association. In 1904 the number of graduates was 5,747; in 1929, from the sixty-six schools the graduates numbered 4,500. Significant is the age of the graduate at the present day. More than half in 1929, we are told*, were from 24 to 27 years old, and 89 were 35 years old or older. According to the American Medical Association, 9 were 21 years of age, though we can hardly understand how a young man can fulfill present day premedical and medical requirements and graduate at the age of 21.

The applications for the freshman class in medical schools continue to be a great deal in excess of the number who can be accommodated. Medicine appears to be a very popular profession with a glamour all its own to the young man who views it from a distance. The Journal of the American

*Editorial, Journal of the American Medical Association, April 25, 1931.

Medical Association gives a ratio of physicians to the population of this and several other countries as follows: The United States has one physician to every 800 persons; Switzerland, one physician to 1,250 persons; Denmark, one physician to 1,430; England and Wales, one physician to 1,490 persons; Germany, one physician to 1,560 persons; France, one physician to 1,690 persons; the Netherlands, one physician to 1,820 persons, and in Sweden, one physician to each 2,860 persons.

DR. FRANK BURR TIBBALS

The death of Dr. Tibbals on April 22 removes from the ranks of medicine in this state a valued member, one who in the particular field he chose as a sort of hobby, served the profession well. Many have Dr. Tibbals to thank for his wise counsel and his help in getting them out of difficult situations in which they were for the most part hapless victims, often through no fault of their own. Elsewhere in this number of the Journal there appears an account of Dr. Tibbals' career prepared by one of his office associates. The doctor was one of the best educated men in the medical profession. He graduated from Yale University in 1888 and from the University of Michigan three years later. Dr. Tibbals was editor for several years of the *Detroit Medical Journal.* He was a member of the Board of Trustees and Treasurer of the Michigan State Medical Society, and was Chairman of the Medico-Legal Committee from 1910 up to the time of his death. Dr. Tibbals had a mind that would have brought him success in law. Probably no more able person could have been selected for the position that he held for over two decades in connection with what was early known as the Medical Defense League, which he virtually created. During this time through his association with the firm of lawyers whose function it was to deal with these cases, Dr. Tibbals acquired a vast amount of practical legal information.

The sympathy of the profession which he served so well goes out to Mrs. Tibbals and family.

GOOD FELLOWS GET TOGETHER

A very pleasant event took place (no it was not a wedding) at the Wayne County Medical Society auditorium on the evening of May 6th, when the medical and legal professions met and told what each thought of the other. The Medical Society were the hosts. Invitations were sent out to the Wayne County Bar Association, which organization turned out in large numbers, with the result that the auditorium was filled to the point of standing room only. This fact is mentioned as an indication of a desire of both professions to seek a basis of common understanding. Dr. W. J. Stapleton, acting Chairman of the Medical Defense Committee of the Michigan State Medical Society, discussed the scope of the proposed medical-legal institute, which is to consist of five members from each profession, whose function it will be to study the problem of their common interests and to make recommendations.

The first joint meeting was characterized by the best of feeling and a deal of good natured raillery on both sides. An evening of

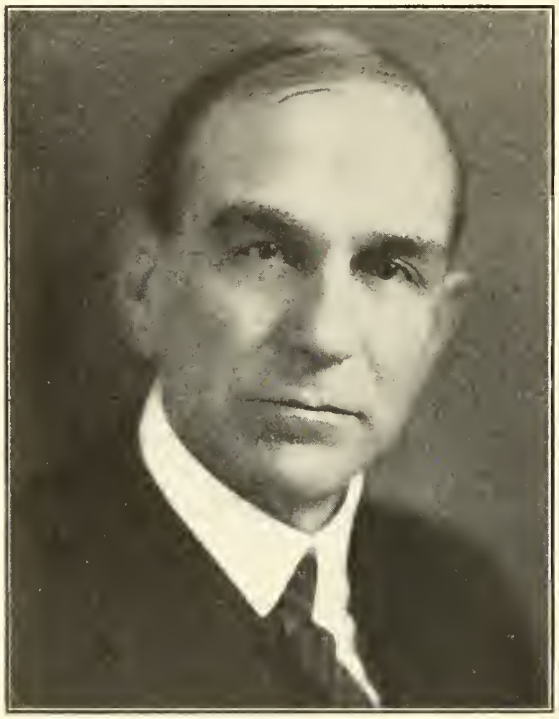
> "Jest and youthful jollity,
> Quips and pranks and wanton wiles,
> Nods and becks and wreathed smiles."

Every lawyer and every doctor must have felt some time in his life that it would be to the advantage of both were the two professions to work together in their common interests, which would also be in the interest of the public. There is the matter of the expert witness, the supplying of medical data in cases suspected of crime, the fixing of responsibility, the matter of health legislation, much of which is inimical to the public good, owing to the fact that such legislation did not take into consideration information that only the trained physician could supply. These are only a few. Both professions await with interest the results of study by the committee of ten. The precedent (if we may use a legal term) that the Wayne County Medical Society has sought to establish, of an annual joint meeting between the Medical Society and Bar Association may, we hope, be followed by similar organizations in other cities and municipalities of the State.

DR. RICHARD R. SMITH, REGENT

The University of Michigan, Governor Brucker who made the appointment, as well as Dr. Richard R. Smith the appointee, are to be congratulated in regard to the filling of the vacancy on the Board of Regents caused by the death of Dr. Sawyer. No

man better qualified for the position could have been selected. The fact that this was in no sense a political appointment is likewise a matter of satisfaction. Dr. Smith



Dr. Richard R. Smith, Grand Rapids, Michigan, appointed to succeed the late Dr. W. H. Sawyer as Regent of the University of Michigan.

has proved himself a man of ability in many ways. He has made a success of his professional career. This fact is a qualification to be strongly desired in a candidate for any public office. Too frequently public offices are held by men who are demonstrated failures in the ordering of their professional, commercial or industrial careers. He was assigned the task at one time of studying the hospital situation of this state; the exhaustive and carefully prepared reports which were published in Supplements to this Journal in July, 1927, and in November, 1928, are evidence of the care and ability Dr. Smith brings to his work.

He is an alumnus of the University of Michigan of the class of 1892 and has always had the interest of his alma mater at heart. He has carried on post-graduate work in medical centers in Germany as well as in Vienna. Dr. Smith has practised his profession in Grand Rapids since 1897, specializing in surgery and gynecology. He is is chief surgeon and gynecologist of the Blodgett Memorial Hospital of Grand Rapids as well as having been chief of staff. He assisted in organizing the Grand Rapids Clinic, which has since become recognized as one of the leading group clinics of the middle west. He organized and commanded Hospital Unit Q during the war and served with the American Red Cross Evacuation Hospital No. 5 near Paris and was later chief surgeon of Base Hospital No. 6, Talence, near Bordeaux, France. Dr. Smith, in addition to being a member of the Kent County, Michigan State and American Medical Associations, is also a member of the American Gynecological Society; he is also a member of the Board of Regents of the American College of Surgeons.

He has visited the clinics of Europe many times and has made one clinical tour of South America (1923) and another of New Zealand and Australia (1924) the latter in company with Dr. William J. Mayo and Dr. Franklin H. Martin. They were called upon frequently to discuss American Hospitals and their methods.

It is important that a member of the medical profession should be one of the Regents of the State University—not necessarily to represent the medical profession—owing to the fact that the University wields both directly and indirectly a large influence in connection with various factors that tend to promote the health of the state.

CONGRATULATIONS *DETROIT FREE PRESS*

On the day that this editorial is being written the *Detroit Free Press* has attained its first century. This is a matter for congratulation, which we heartily extend to our lay contemporary. The past hundred years, while a brief period in human history, is a long time in the history of the State of Michigan, if we may count time by the momentous events that have been chronicled during that period. The *Detroit Free Press* has maintained a reputation for reliability in the reporting of news, and its editorial judgment throughout the years has been on the whole sound. The fact that the *Free Press* has not only persisted, but has become one of the great newspapers of the country, is evidence of service rendered. It is an instance of the "survival of the fittest." Today the editorial pages contain a variety of

interesting reading matter and the editorials appeal to one's sense of fairness; even in the instances in which the reader may disagree, they are at least thought stimulating. Had one access to the files of the *Free Press* for the last one hundred years he would have a complete history of medical progress, not to mention the history of progress in almost every other line of human endeavor.

Starting on the second century of its existence may the *Free Press* be guided by the same wisdom and well balanced judgment that has characterized its long history.

POST-GRADUATE INSTRUCTION

The program of the Post-Graduate courses offered under the Department of Post-Graduate Medicine of the University of Michigan has been printed, and distributed to those who have made application. At present indications are that a large number of doctors are availing themselves of the opportunity to seek further knowledge and training in some phase of medicine or surgery in which they are interested.

Over half of the applications for Post-Graduate work in ophthalmology and otolaryngology had to be refused and the fee refunded to the applicants owing to the fact that more candidates for work in these departments applied than could be cared for.

DR. OLIVER GOLDSMITH

(The London Lancet)

Oliver Goldsmith, like Keats and Smollett, is known as a qualified doctor, but of the famous trio Smollett was the only one who ever practised his profession, and, it seems, the only one about whose actual qualifications there is no doubt. Goldsmith has been reported to have failed to obtain a license at Surgeons Hall, but there is some evidence now that he was M.D. Oxford ad eundem gradum. This fact has escaped the University records, but Sir William Osler discovered in a newspaper of the particular year, 1769, a note on the granting of the degree. An ad eundem degree is only conferred on those who already hold the same degree in a comparable university, and the note went on to state that Goldsmith was the recipient of a medical degree from Trinity College, Dublin. This fact also goes without substantiation from the University, but it appears from other evidence that the degree was granted in absentiâ, possibly for medical work done on the continent. So it seems that Goldsmith may have been a qualified doctor, but his short attempts to exercise his profession were unsuccessful.

A sketch of his life reaches us in the form of a communication made by Dr. J. N. Elliott Brown, of Toronto, to a local scientific society, in which the known facts are resumed and others are set out which will be novel to most readers. These make a vivid and attractive picture of a brilliant wayward man. Born of a gentle and absolutely improvident family, Goldsmith received a desultory education at Dublin University, learned French from some Catholic priests whose acquaintance he made casually, and finally presented himself before a bishop to be examined for Holy Orders. He failed to satisfy the prelate of his suitability for the office of clergyman, and decided to enter the profession of law, having found here a financial backer in the person of a good-natured uncle Contarine. This again proved a false start, at which point he became a medical student in Edinburgh. Dr. Brown supplies interesting notes on the careers and characters of the Edinburgh savants, and tells in detail the story of Goldsmith's celebrated European tramp which lasted a year, and which, according to the traveller, included Leyden, Paris, Berne, Geneva, Milan, Florence, Venice, and Padua. "Goldsmith left Leyden on foot with a guinea," says Dr. Brown, "which he had borrowed, a shirt and a flute. His final objective was Padua, where the great Morgagni reigned supreme in the Italian medical world. It took Goldsmith ten months to reach his goal. Before starting he noticed some rare tulip bulbs in a shop, and recalling his good uncle Contarine's love of flowers, bought a supply of the bulbs and forwarded them to him." How many of the galaxy of eighteenth century physicians, physicists, and philosophers, who might have been met in such a wander-jahr, Goldsmith personally encountered is doubtful—certainly not all those whom he professed to have spoken with—but he seems to have included medical among his other experiences, even if his statement be not accepted that he received a medical degree at Padua.

Dr. Brown describes a man, brilliant with tongue and pen, charming, humane, and learned, who possessed no characteristics that would make it likely that he would succeed in the practice of medicine and many that would have antagonised his professional chances.

PSYCHIATRISTS, ATTENTION

(The Manchester Guardian)

It is said that there is a movement on foot in New York in favor of brighter clothes with gayer colors for business men and we might add professional men. The object being to correct moods of depression caused by the financial situation. The colorful male should be clothed in brighter tones when the times are hard and money is scarce.

Commerce may be doing rather badly,
  Business may be very far from bright—
That is no excuse for dressing sadly
  Like a being bowed beneath a blight.
Surely now's the hour for ostentation,
  Now's the time to have a gayer fling,
And in moods of wilder decoration
  Blossom forth like radiant buds in spring.

Down with dismal patterns that dishearten;
  Up with tints that set the streets ablaze!
Up with shepherd's plaid and bonny tartan;
  Down with sombre blacks and sober greys!
Let's be done with sackcloth and with ashes
  Suitable for sad and sorry wrecks—
Let your ties be full of spots and splashes,
  Let your breeks be gay with stripes and checks!

Not for me the garments of the dullard;
  Lo! I represent the manly strain,
Eager emblem of the twopence coloured,
  Never of the poor and penny plain.
At my coming deep depressions vanish,
  Markets start to rise instead of sink—
Blues and all attendant gloom I banish
  Just by being plainly in the pink.

Do not forget the date of the American Medical Association which meets this year in Philadelphia. The dates are June 8 to 12, inclusive.

THE PERFECT MAN

(The Pennsylvania Medical Journal)

The man who never makes mistakes in diagnosis, or commits an error of judgment in treatment, is sometimes a member of our medical societies. He never has any unpleasant complications in his surgical manipulations and his cases are particularly free from unfavorable sequels; uniformly good results and phenomenal success invariably crown his efforts. He is a complacent gentleman, extremely optimistic when reviewing his own handiwork, but cold, impartial and, perhaps, slightly hypercritical when surveying that of his confrères. He becomes particularly impressive when some younger man details the history of an unfortunate and unavoidable accident, or when some conscientious colleague makes a frank and truthful recital of his experiences. Then he manifests his surprise and, by his comments in the discussion, indicates his calm superiority and advertises his personal ability. He knows full well that society reports are often perused by credulous readers with more receptive minds than the actual auditors, and hence he looks carefully after the stenographer. Few, however, are deceived except himself and an occasional neophyte. Fortunately such men are but a small minority of contributors, and the papers and clinical reports are usually provocative of veracious and beneficial discussions.

NOT EXACTLY A MEDICAL PROBLEM, BUT!

(Indiana State Medical Journal)

"Why is it that so many physicians never attend church?" was the question asked us recently. We may well ask why so many lawyers, judges, school teachers, and educated people in general are not included, for it is a well-known fact that a fair percentage of educated people are not churchgoers, and we think that it is up to the church to tell why. It isn't because these educated non-churchgoing people do not believe in some form of religion or have the greatest respect for the Bible and its teachings, but it is because they object to sitting for an hour and a half or two hours in a church where perhaps they must tolerate a lot of atrocious music, and listen to what for the most part are considered mediocre sermons that give the intelligent person not the slightest inspiration or enlightenment. Perhaps it will be said that some want their religion sugar-coated, but if it is the only way that you can get religion into some people then let them have it sugar-coated, but remember that some of the bitterest as well as most effective medicine may be sugar-coated and willingly and even agreeably taken by the patient with the most satisfying results. Not all ministers can be brilliant or entertaining, but the most of them could gather into their churches more of the intelligent class, to which we think physicians belong, if they put forth a little more effort to make their sermons interesting, or at least give their listeners something that can be taken away as worth while. Furthermore, many physicians think, as many others think, that if the churches generally would lay less stress on a creed that cannot be accepted in its entirety by even all their own members and is still less acceptable to outsiders, the churches would be more popular and receive more generous support.

"Throughout the Middle Ages the periodic plagues that swept over Europe, trailing death, desolation and despair in their wake, were looked upon as acts of God. At last, however, the genius of medicine discovered the causes of disease and ended the terrors of the Black Death. In modern times the plagues that afflict us are these cyclical seizures of economic paralysis whose causes, still obscure, must be probed and removed."—Atlantic Monthly.

GENERAL NEWS AND ANNOUNCEMENTS

The editorial office of the journal, *Radiology,* formerly located in Chicago, is now located at 1201 Maison Blanche Bldg., New Orleans, Louisiana.

Dr. W. J. Stapleton, Jr., of Detroit, has been appointed acting chairman of the Medical Defense Committee made vacant by the death of Dr. F. B. Tibbals.

The annual commencement exercises in connection with the Detroit College of Medicine and Surgery will be held in the Masonic Temple at 3 P. M., June 18.

The Alumni Association of the Detroit College of Medicine and Surgery will hold its Annual Dinner and Class Reunion with annual meeting at the Statler Hotel, Thursday, June 19.

Dr. Richard R. Smith, of Grand Rapids, has been appointed by the Governor as a member of the Board of Regents of the University of Michigan to succeed the late Dr. W. H. Sawyer.

Dr. William Donald of Detroit gave an afternoon clinic at Lima, Ohio, before the Allan County and Lima Medical Society. In the evening Dr. Donald discussed the subject, "How State Medicine Appeals to Me."

Dr. and Mrs. H. Wellington Yates of Detroit spent a few days at Beaumont, Texas, where the doctor read by invitation a paper on The Use of Non-specific Protein in Gynecology, before the Texas State Medical Society.

The sixth annual meeting of Michigan Association of Industrial Physicians and Surgeons was held at Detroit April 23 and 24. A full program was presented. The papers and discussions will be published in a special volume.

The annual election of officers of the Wayne County Medical Society on May 19 resulted as follows: President, Dr. H. W. Plaggmeyer; president-elect, Dr. H. Wellington Yates; secretary, E. D. Spalding; trustee, Dr. J. M. Robb, the retiring president.

The regular May meeting of the Washtenaw County Medical Society was addressed by Dr. Paul W. Harrison who spoke on the subject, "Fourteen Years of Medical Service in Arabia," and also by Dr. Malcolm H. Soule on "Some Medical Problems in Porto Rico."

At the annual meeting of the Michigan Association of Industrial Physicians and Surgeons held in Detroit April 20 the following officers were elected for the ensuing year: President, Dr. Clarence S. Gorsline, Battle Creek; vice president, Dr. C. W. Brainard, Battle Creek; secretary, Dr. Frank A. Poole, Lansing.

A biographical sketch of the late Dr. Sawyer will appear in the July number of this Journal. Dr. Sawyer, who died very suddenly on April 28, was for a quarter of a century Regent of the University of Michigan, and during his long professional career he was closely and sympathetically identified with the medical profession of this State.

The Code of Ethics of Industrial Surgeons, as recommended by the Industrial Relations Committee of the Wayne County Medical Society, was approved by The Council of the Society on April 20. Subsequently this Code was approved by the Michigan Association of Industrial Surgeons on April 24. It is now being referred to the Michigan State Medical Society for its approval.

Dr. Burt R. Shurly left Detroit May 21 for Los Angeles to attend a meeting of the board of American Oto-laryngological Society and the Pacific Coast Eye, Ear, Nose and Throat Society. Dr. Shurly is one of ten members on the examining board of the American Oto-laryngological Society which will conduct examinations of physicians in Los Angeles, St. Louis, and Philadelphia.

One of the best attended meetings in the history of the Wayne County Medical Society was that of May 6th, when the Medical Society and the Detroit Bar Association got together to discuss matters of common interest. Dr. J. M. Robb, President of the Wayne County Medical Society, presided. Addresses were delivered by Dr. W. J. Stapleton, Jr.; Mr. Henry C. Walters, former President of the Detroit Bar Association; Dr. Louis J. Hirschman, past President of the Michigan State Medical Society; Dr. George McKean and Mr. Hanna.

A circular letter has been sent out under the auspices of the Joint Committee on Public Health Education inviting lecturers among the physicians of the State. A list of 115 subjects accompanies the letter. It is hoped that many will respond favorably to this invitation. The Health Department of the State has undertaken a comprehensive program of health education in the high schools of the State. Doctors will be needed to supplement this course of instruction. The classes will be smaller than the usual audience and therefore much easier to address.

AMERICAN MEDICAL GOLFING ASSOCIATION TOURNAMENT

Philadelphia, June 8, 1931

The Seventeenth Annual Tournament of the American Medical Golfing Association will be held in Philadelphia, Monday, June 8, at the Aronimink Golf Club instead of the Huntingdon Valley Country Club, as announced in the Brochure of the Association which was recently mailed to members. The Aronimink Golf Club is modern; the course is in splendid condition and is interesting and sporty. The Local Committee is doing everything possible to make the tournament a great success. The Philadelphia men composing the Local Committee on Arrangements are Dr. John W. Croskey, Chairman; Dr. Willis F. Manges, Dr. Fred H. Leavitt, Dr. Frank J. Kelly, and Dr. Damon B. Pfeiffer.

Membership in the American Golfing Association is open to any male Fellow of the American Medical Association in good standing. It is hoped that many of the medical golfers throughout this State will join the Association this year and take part in the Philadelphia tournament. There will be many attractive and valuable prizes awarded at the Annual Dinner, to be held on the evening of the day of the tournament at the Club House. For any additional information, communicate with any member of the Local Committee, or with the Executive Office, 1124 Maccabees Bldg., Detroit, Michigan.

NORTHERN TRI-STATE MEDICAL SOCIETY

The 58th annual meeting of the Northern Tri-State Medical Society was held in Ann Arbor on the 14th instant. A record breaking crowd of 350 was in attendance. The University of Michigan Medical Department was host to the gathering. Morning Clinics were given in the University Hospital by Professors C. C. Sturgis, John Alexander, and Frank Wilson.

The afternoon session was held in the Natural Science Building, addresses and papers being given by Dr. Arnold Jackson of Madison, Wisconsin, Dr. L. J. Karnosh of Western Reserve University, Dr. Norman F. Miller of the University of Iowa, Dr. E. B. Gillette of the University of Toledo, and Dr. P. F. Morse, Pathologist to Harper and Children's Hospitals, Detroit, Michigan.

A banquet was tendered to the members in the evening at the Michigan Union, and was followed by addresses from Dr. W. W. Babcock of Temple University, Philadelphia, and Dr. Geo. Crile of Western Reserve, Cleveland, Ohio.

The officers elected for the ensuing year were: President, Dr. C. D. Camp, Ann Arbor, Mich.; vice president, Dr. Senseny, Fort Wayne, Indiana; secretary, Dr. Edward B. Pedlow of Lima, Ohio; treasurer, Dr. G. O. Larson of LaPorte, Indiana. Councillors from the three states were: Dr. J. C. Fleming, Elkhart, Indiana; Dr. H. E. Randall, Flint, Michigan; Dr. Chas. Lukens, Toledo, Ohio.

Toledo was selected for the next meeting in April, 1932.

DEATHS

HUGH A. HAGERTY, M.D.

1874—1931

Another well known member of our Society passed away Saturday, April 4, 1931, when Dr. Hugh A. Hagerty was called to his reward. Dr. Hagerty was born in Fredericktown, Ohio, in 1874 and received his early education there and in Cleveland. He graduated from the Cleveland-Pulte Medical College in 1898 and came to Grace Hospital, Detroit, for his interne training. He supplemented his medical studies in this country with postgraduate work in Scotland.

In 1906, Dr. Hagerty became a member of the Grace Hospital staff and continued this connection until the time of his death, when he was attending surgeon in the Surgical Division. Despite a protracted illness of two years, Dr. Hagerty continued his professional labors almost till the time of his decease. Aside from his membership in the Wayne County, Michigan State Medical Societies and the American Medical Association, Dr. Hagerty was a Fellow of the American College of Surgeons and a member of the Detroit Athletic Club. His Masonic connections were extensive, including the Corinthian Lodge, F. and A. M.; Damascus Commandery, Knight Templar, and Moslem Shrine. He leaves a widow, Mrs. Angenette Hagerty.—*Wayne County Medical Society Bulletin.*

DR. FRANK BURR TIBBALS

By C. E. SIMPSON, M.D.

DETROIT

With the passing of Frank B. Tibbals on April 22, 1931, the medical profession of Michigan lost one of its staunchest supporters. As Chairman of the Medical Defense Committee ever since the formation of that body, he was known throughout the State for his loyalty to his fellow practitioners and his willingness to help wherever help was needed.

This loyalty to his friends was one of his chief characteristics. Graduating from Yale in 1888, he kept up a contact with the members of that class to the end of his life. As late as February of this year he went to Washington to attend a dinner given the class by Secretary of State Stimson. Always was he interested in the achievements of the "boys of '88" and always strong in expressing his loyalty to them.

The same trait was even more conspicuously shown in his relation to his medical class, '91, University of Michigan. For years Dr. Tibbals had been class secretary, keeping track of each member as far as he could, noting deaths and removals, and sending a characteristically humorous and cheery letter each year. Class reunions were numerous and usually well attended. That the class recognized his large part in keeping alive class interest and arranging class affairs, was shown some years ago by their gift to him of a silver loving cup, suitably engraved; a gift which moved him nearly to tears, and which he always kept on his desk—a constant reminder of the group he loved.

We would expect a man with so strong a capacity for friendship to be among the leaders in any group with which he became associated, and such was the case. In the Wayne County Society he was its first President and for some time Treasurer. When the agitation for a meeting place and club rooms of our own was started, Dr. Tibbals was one of the most active in getting the needed subscriptions. This interest never failed. Habitually, even when the Society's rooms were moved to their present location, which meant his driving some distance to reach them, "Pop," as the younger men affectionately called him, lunched at the Club.

A member of the Detroit Curling Club until a short time before his death, he was for years Chairman of its Games Committee and participated in its contests both here and out of town. This was his main active recreation and to it he gave his enthusiastic support.

In social organizations The Ingleside Club counted him a member and he belonged to Palestine Lodge, A. F. and A. M., Detroit Chapter R. A. M., Monroe Council R. and S. M., Detroit Commandery No. 1, K. T., and to Moslem Temple of the Mystic Shrine.

To make the record complete mention should be made of some of the important events of his life. Born in Salem, Michigan, 1864, graduated from Yale in 1888 and from the Medical department of the University of Michigan in 1891, married Laura A. West in 1893, and practiced his profession in Detroit for thirty-nine years. For some time in his early years Dr. Tibbals was associated with Dr. Donald McLean, later with Dr. Theodore McGraw, and for a number of years with Dr. Frederick W. Robbins. Following his early taste and training he specialized in surgery, becoming Junior Surgeon at Harper Hospital, and Consulting Surgeon on the staff of the Woman's Hospital.

He was one of the early Detroit Fellows of The American College of Surgery. In addition to the State and National Medical organizations, he was a member of the Detroit Academy of Medicine. His work in organizing and heading medical defense in the State gave him a prominence which resulted in his being Professor of Medical Jurisprudence at the Detroit College of Medicine and Surgery for fifteen years.

It is for his work in the Medical Defense Committee that he is best known to the profession today. This was real pioneering and grew out of an experience of his own in which he won his case only when coöperation on the part of medical witnesses was secured. As has been previously mentioned, he was the Chairman of this Committee. He was more than that. He was really the Committee. This work brought him in touch with the profession all over the State. He not only performed the usual duties of the Committee, but he gave freely of his advice to any physician who needed it and by his genuine interest and sympathy, gave many a troubled doctor confidence and courage. Many letters from doctors whose fights he made his own, were among Dr. Tibbals' possessions; letters that left no doubt of the gratitude of the writers.

In his chapter on Medical Defense in the recently published Medical History of Michigan, the doctor gives numerous accounts of suits contested by the Committee. These accounts are given by Dr. Tibbals with vividness and they make interesting reading, but no one knows the worries and anxieties behind them, cares to a large measure taken off the shoulders of the physicians by the Committee—no one but that same Committee. To the last he was helping the profession to avoid trouble, as is shown by his letter on the importance of X-ray examinations that appeared in a recent number of the Journal. Probably no other man has done anything like as much to bring about loyalty, friendliness and coöperation in the profession of Michigan.

Such, in brief, is a recital of the career of one of our best known members. A career, shorter than many, filled with active service and characterized by a fine loyalty to the group that we may well imitate. He leaves his wife and two married daughters in addition to a host of friends, both inside the profession and out, who will always be the richer for having known Frank B. Tibbals.

SURVEY SHOWS COUNTRY'S HEALTHIEST YEAR WAS 1930

Health workers are now wondering whether the health record for 1931 can be made to equal or better that of 1930.

In spite of business depression and unemployment, 1930 was the healthiest year this country ever enjoyed, according to statistical reports of the Metropolitan Life Insurance Co. just issued. The company's reports refer particularly to the industrial wage-earning population of the United States and Canada.

Notable reductions in the death rate for tuberculosis, typhoid fever, the principal diseases of childhood, and pneumonia were found. The number of deaths from tuberculosis, diphtheria, and diseases of pregnancy and childbirth reached new low points.

Suicides increased markedly, but this death rate was lower than previous high figures recorded in the period from 1911 to 1916.

The cancer death rate increased very slightly.

Deaths from accident were fewer during 1930 than in the previous year. This includes automobile fatalities, which for the first time in 20 years showed a decline in the company's reports. However, the drop was so small as to be considered of slight significance by statisticians of the company.

The U. S. Bureau of Census has just reported an increase of 2 per cent in automobile fatalities throughout the country for the period from January 25, 1930, to January 24, 1931.—*Science Service.*

SOCIETY ACTIVITY

AN APPRECIATION

Burr, Sawyer, Tibbals! Their deaths during April drafted from our ranks three outstanding men of the profession in Michigan. Men whom we can ill afford to lose. Men who were dependable advisors and counselors.

Our contact with Dr. Burr extended over a period of twenty-five years. As Councilor, President, fellow member on the Board of Registration, Historian and Committeeman our association was continuous. It brought a full realization of his capabilities, his stable judgment, his kindly nature and unswerving friendship. He inspired, he guided, he aided in causing us to avoid errors and at all times he was ready and willing to respond to enhance the profession's welfare.

It was under Dr. Sawyer's term as President that we assumed the office of Secretary. During the succeeding years he always was found ready to aid and advise. Never did we seek his counsel in vain. He was intensely interested in all medical affairs and ever eager to further the objectives of our society. A holiday season never passed but what he penned and sent a personal greeting filled with cheer and encouragement. Treasured as we have, these annual expressions, we are not violating a valued friendship when we impart his last letter of December 23, 1930, it reveals the kindly spirit of a dear and prized friend.

My dear Warnshuis:

I do not forget your thoughtfulness and sympathy when Hattie died. I cherish it and placed it with things I treasure. I do not think you can realize what your friendship means to me through all my trials.

You have always been so good to me that my debt of gratitude overwhelms me. I wish I might in some better way signify my appreciation. I am proud of your friendship and of you. Your success has given me as much joy as it could you. To have been Speaker of the House of Delegates of the A. M. A. is a signal honor and to have held it year after year is especially distinctive.

I hope the years may not be long enough to dim our friendship. May the yuletide season bring to you all the happiness earned by a life of sacrifice to a common welfare.

Your friend,
Walter H. Sawyer.

This imparts an insight to a man, who, though great, was ever thoughtful of those who were his friends and placed them above himself, unworthy as we were.

It is over twenty years that we first met Dr. Tibbals. In the House of Delegates at an annual meeting in Kalamazoo, we were drawn to him as he advocated and accomplished the institution of the Society's Medico-Legal Defense plan. As is known, he fathered this plan most successful during all these years. His was a unique character, which drew to him numberless friends, and by his friendship inspired many of us to call him "Pops". His services upon the Medico-Legal Committee could never be compensated. His legal mind and medical knowledge caused him to bring to all members a sustaining encouragement when threats or suits were pending. "Pops" was always one of the boys and a friend ever to be relied upon.

And now they have gone on. Singularily the summons for each was sudden and without a warning illness. They passed on in the midst of activity. Well on in years, yes, but the hope had always been that they would be spared to all of us for many years yet to come. We can ill afford to lose their leaderships, their counsel and their friendship.

Sacred memories shall ever be ours. We shall be ever grateful that we were privileged to be associated and inspired by them.

"The deeds of their lives will be treasured,
To be lived by us and preserved."

* * *

OBSERVATIONS

You have time to engage reservations for the Philadelphia session of the A. M. A. It promises to be an excellent meeting. Better go.

* * *

Conferences and Post-graduate Clinics were held in Manistee, Alpena and Marquette during May. The minutes of the special meeting of the Council on May 19th will be found in this issue.

* * *

Numerous inquiries are coming in from out of the state, seeking locations for practice. Doctors feel the economic depression. Apparently, they think, other fields are greener and more lucrative. The advice is to stay where you are. We, in Michigan, are struggling too.

* * *

The State Board of Registration Examinations will be conducted jointly in Detroit and Ann Arbor on June 15th, 16th and 17th.

* * *

Dr. Gibbons, president of the California

Medical Association makes the following observations that may well be applied in this state:

"(3) *We do not exhibit cohesion or concert of action.* We do not organize strongly. Comparatively few individuals will put themselves out for the good of the group.

"Any Rotary Club can get more done than any medical group and in a minute fraction of the time. The reason is, Rotary is a unit. A member must pull his own weight, must work, and must attend meetings, or else get out and make room for some one who will. Rotary publicity is faultless. Whatever individuals may be or do, Rotary principles receive the publicity, and the principles are easily understood and above reproach. Did you ever hear of an individual Rotarian making comment or expressing opinions on Rotary business for public consumption? No.

"Unhappily, the medical man dearly loves to express minute variations in non-essentials. It is not undignified to say the same thing in the same way as one's confrères or to find out from one's associates what others are doing and thinking, but it is not necessary to engage in quarrels over minor differences of opinion. The newspapers and the public love an internal scrap, but our prestige falls every time it happens.

"Why is it that when a man gets in the limelight he is so prone to make statements at variance with the best interests and expressed policies of his confrères? He knows that the newspapers will use his words as they see fit. Sadly enough, he is often willing to talk without knowledge of his subject. He seems to feel that he acquires virtue by his puny exhibition of independence. He makes himself—and the rest of us—ridiculous. The public is delighted when newspapers provoke acrimonious discussions."

* * *

Our Annual Meeting in Pontiac, September 22, 23, and 24 will witness the 100th anniversary of the Oakland County Medical Society. Special program features will characterize that celebration. Oakland County members promise to be ideal hosts. Committees have been busy for five months and will continue active to prepare for your coming. Watch the Journal for future announcements and note the date.

* * *

Invitations for the 1932 Annual Meeting must be in the Secretary's hands thirty days before this years annual meeting. County Societies desiring to be hosts in 1932 should bear this in mind.

* * *

Why not order a set of Medical History of Michigan? You need these two volumes. The price is $10.00. Your delegates directed its publication and in doing so acted in your behalf. They incurred an obligation of some $7,000.00 for you, order your set and wipe out this obligation.

* * *

Some members in each county are still delinquent in 1931 dues. Assist your local secretary by sending him your check. Remember you lose Medico-legal protection during your suspension. Much against the committee's desire defense was denied last month to two members who were sued for services rendered during their delinqency. In these days of many suits it might be possible for you to find yourself in such a position. Avoid it by paying your current dues. You can not afford to let them lapse any more than you can afford to lapse on your life or accident policies.

* * *

We are in entire sympathy with our members living in Michigan resort centers who object to out of state doctors coming to these resorts and practicing. If there are such who do so without a Michigan license we will be prompt in instituting proceedings to terminate such competition.

* * *

Better plant a few extra hills of potatoes and more cabbage. Raise a pig or two for winter killing and put a few nickles in a saving account. It's going to be a hard winter.

COUNCIL MEETING

This issue contains the minutes of the Special Meeting of the Council held on May 19th. The discussions of the afternoon session will be published in the July issue.

It will be apparent that the Council concerned itself with important issues that affect and are of interest to the profession. It is evident that the Council is alert to its responsibilities and is representing the profession in these recent state movements that are related to public health.

The Council urges that every member in-

form himself as to the activities of his society and the problems that confront the profession today.

POST GRADUATE CONFERENCES

The following was the program for the Conference held in Alpena on May 21:

PROGRAM

10:00 a. m. Dermatological Clinic
Dr. Harther L. Keim, Detroit
12:15 p. m. Luncheon
1:30 p. m. Scarlet Fever, Prophylaxis and Treatment.....Dr. John E. Gordon, Detroit
2:15 p. m. Appendicitis. Differential Diagnosis and Treatment
Dr. Grover C. Penberthy, Detroit
3:00 p. m. Treatment of Pre-paralytic Poliomyelitis.....Dr. John E. Gordon, Detroit
3:45 p. m. The Care of Fractures
Dr. Grover C. Penberthy, Detroit

The following program was carried out in Manistee on May 13:

Mercy Hospital
Wednesday, May 13, 1931
Manistee, Michigan
Presiding: O. L. Ricker, M.D., Councilor, Cadillac

PROGRAM

10:00-12:00 a. m. Surgical Clinic
1. Treatment of Varicose Veins with Demonstration of Technic
2. Appendicitis
3. Newer Anesthesia
Frederick A. Coller, M.D., Ann Arbor, and Associates

Afternoon Session

12:00 m. Luncheon—Medical Problems
F. C. Warnshuis, M.D., Grand Rapids
2:00-4:00 p. m. Preventive Medicine—Demonstration of Immunization Methods
C. C. Young, M.D., Lansing
4:00-4:30 p. m. Mouth Lesions of Medical and Dental Interest
J. W. Kemper, M.D., Ann Arbor

HOXSEY CONVICTED

In February, one Mr. Hoxsey, who had posed as able to cure cancer, and who, it has been reported, was convicted of illegal practice in Illinois and Iowa, came to Detroit. A so-called Cancer Clinic was opened on Woodward Avenue. A certain Dr. Van Hyning associated himself with Hoxsey. There was the usual publicity, claims and radio broadcasting.

Within a month Hoxsey was arrested for practicing without a license. At his trial, May 7-8, the jury convicted him. Dr. Van Hyning's license to practice was revoked on March 30. The license of the radio station that permitted Hoxsey to broadcast was suspended by the Federal Radio Commission in April after complaint had been filed.

Michigan authorities do not fool. They promptly terminate law violations.

SCIENTIFIC EXHIBITS

Two years ago Dr. German assumed directorship of the Scientific Exhibits at our annual meeting. Through persistent effort and thought Dr. German is accomplishing a most commendable educational feature for our annual sessions. An increase of exhibits is planned for this year. New viewing boxes and racks are being provided. Certificates of awards and merit will be conferred.

Members are urged to write to Dr. W. K. German, Pathologist, Blodgett Hospital, Grand Rapids, for entries, information and space required. Please call the attention of your pathologist and roentgenologist to this scientific exhibit. Aid in making it an outstanding feature of our meeting.

MINUTES OF THE SPECIAL MEETING OF THE COUNCIL OF THE MICHIGAN STATE MEDICAL SOCIETY

1. Pursuant to the call of the Chairman the Council of the Michigan State Medical Society met in special session at the Statler Hotel, Detroit, Michigan, at 12:30 P. M., Tuesday, May 19, 1931.

Present: B. R. Corbus, Chairman; R. C. Stone, President; C. F. Moll, President-Elect; F. C. Warnshuis, Secretary.

Councillors: C. E. Boys, C. A. Neafie, O. L. Ricker, G. C. Hafford, T. H. Heavenrich, A. S. Brunk, P. R. Urmston, Julius Powers, H. R. Carstens, J. E. McIntyre, Henry Cook, James D. Bruce.

As invited guests and participants in the discussion of the special session there were present:

Dr. Bernard W. Carey, Children's Fund of Michigan.

Dr. R. E. Patterson, President, Mich. State Dental Society.

Dr. C. C. Slemons, State Commissioner of Health.

Dr. B. A. Shepard, President, Michigan Tuberculosis Assn.

Mr. Theodore Werle, Secretary Michigan Tuberculous Assn.

Dr. E. J. O'Brien, President, Michigan State Sanatorium Commission.

Dr. A. H. Whittaker, Legislative Committee.

Dr. J. D. Robb, President Wayne County Medical Soc.

Dr. H. W. Plaggemeyer, President-Elect Wayne County Medical Society.

2. The Chairman of the Council made an opening statement as to the purpose of the special session and then called upon the representatives of these various organizations for the purpose of imparting the programs and policies of their respective organizations and indicating how and in what manner the State Medical Society may be of assistance as well as to coöperate with them in the attainment of their objectives. (These addresses, discussions and comments will appear in the July Journal, in detail.)

3. Following these discussions the Council recessed until 6:30 p. m.

4. The Council reconvened at 6:30 p. m. at the Statler Hotel with Chairman Corbus presiding and all those who had registered at the afternoon session present.

5. The Secretary presented a report on the sale of the Medical History. This was discussed and upon motion of Bruce-Cook the question of increasing the sale of our history was referred to the Executive Committee.

6. The Secretary presented artist's drawing of the proposed president's badge. Upon motion of Powers-Urmston, a badge was approved and the Secretary instructed to secure a sufficient number for presentation to presidents and that the insignia of the badge be adopted as the official insignia of the Michigan State Medical Society.

7. The Secretary presented blue prints of viewing boxes for scientific exhibits at our Annual Session and imparted the recommendation of the chairman of the scientific section that ten such viewing boxes be purchased at an estimated cost of $57.00 per viewing box. Upon motion of McIntyre-Neafie, the Secretary was directed to purchase these viewing boxes.

8. The Secretary presented the action taken by the House of Delegates directing that at each Annual Session a memorial exercise be held for our deceased members. Upon motion of Boys-McIntyre, the Secretary was directed to arrange for such memorial feature in connection with the first general session of each Annual Meeting.

9. The Secretary presented a communication from Dr. Evans in which he inquired whether the State Medical Society would be willing to join him in a test court case to determine the ownership of X-ray films. Upon motion of Bruce-Hafford, the Secretary was directed to secure the opinion of Mr. Barbour as to the advisability of such a joint court procedure and report this opinion to the Executive Committee, who shall be empowered to determine whether or not the Society participate in such a suit.

10. The Secretary presented a communication from Dr. Frank T. McCormick of Detroit enclosing a Code of Ethics, adopted by the Michigan Association of Industrial Physicians and Surgeons, and requesting that the State Medical Society approve this code. After some discussion it was moved by Carstens-Powers, that the Council endorse the principles incorporated in the code as an interpretation of the principle of ethics of the American Medical Association in regard to the physician's relationship to industrial medicine and surgery, and that this code be referred to the next session of the House of Delegates for final action.

11. The Secretary presented the following communication from Dr. W. J. Stapleton, Jr., Acting Chairman of the Medico-Legal Committee.

May 12, 1931.

The Council of the Michigan State Medical Society:
Gentlemen:

Pursuant to your letter of April 23, 1931, a copy of which is attached to this report, I took over the files of the Medico-Legal Committee that were in the offices of the late Dr. Tibbals and also got in touch with Mr. Barbour, the attorney.

Secondly, the meeting of the Committee was called on Thursday, May 7, in the Wayne County Medical Society club rooms in Detroit. Drs. Bruce, Manwaring, and myself were present. Dr. Angus McLean telephoned and said he would be unable to be present on account of an emergency case. He gave me his proxy.

Third, the following recommendations were made: 1. The Council to appoint a successor to Dr. Tibbals; 2. The Committee recommended that the work of the Medico-Legal Committee be continued as in the past.

It is the sense of the Committee that the Society has suffered a great loss in the death of Dr. Frank B. Tibbals, who has carried on this work so faithfully for the past twenty years.

Appended is a report of the financial condition of the Medico-Legal Committee which was received from Dr. Warnshuis, Secretary of the State Medical Society. The Committee spent considerable time in reviewing the cases and correspondence received from Dr. Tibbals' office. It will require considerable more time to classify this information and get it in workable shape. I am also enclosing a short re-

port from our attorneys covering the cases they have in their files at the present time. This is by no means a complete list.

Respectfully submitted,

Wm. J. Stapleton, Jr., M.D.

April 23, 1931.

Dr. Wm. J. Stapleton,
404 W. Fort St.,
Detroit, Michigan.
Dear Dr. Stapleton:

It is my pleasure and official duty to advise you that President Stone has appointed you as Acting Chairman of our Medico-Legal Committee because of the vacancy caused by the death of Doctor Tibbals.

I am further directed to instruct you to assume charge of the medico-legal files that are in Dr. Tibbal's office and jointly with Mr. Barbour protect the members against whom suits have been filed.

The request is also made that you call a meeting of the Medico-Legal Committee, at your earliest convenience, and that your committee review the situation and formulate recommendations to be presented to the Council. Inasmuch as the Council is going to meet in special session on May 19, at the Statler Hotel, Detroit, for the consideration of several other medical problems related to our organization, it is recommended that your committee have a report ready so that the Council may act upon it at their special session.

Pleased be advised that if there is any personal assistance that this office can give you, you have but to command me.

Yours very truly,

(SIGNED) F. C. Warnshuis, M.D., *Secretary.*

Upon motion of Bruce-McIntyre this report was adopted.

The By-Laws provide that the Council shall elect the members of the Medico-Legal Committee and also elect a Chairman. The By-Laws provide, further, that in case of vacancy such vacancy shall be filled by the President by and with the advice of the Council. In conformity with these provisions Councilor Bruce nominated Earl I. Carr of Lansing as a member of the Medico-Legal Committee to succeed Dr. F. B. Tibbals, deceased. Upon motion of Powers-McIntyre, the Secretary was directed to cast the Council's ballot for Dr. Carr. The Secretary did so cast and the Chairman declared Dr. Carr elected as a member of the Medico-Legal Committee.

President Stone presented to the Council his appointment of Dr. W. J. Stapleton, Jr., of Detroit, as Chairman of the Medico-Legal Committee. Upon motion of McIntyre-Heavenrich, the Council confirmed this appointment.

12. The Secretary presented the following communication from the Chairman of the Committee on Civic and Industrial Relations:

March 24, 1931.

Dr. F. C. Warnshuis,
Sec. Michigan State Medical Society,
Grand Rapids, Mich.
Dear Doctor Warnshuis:

The Chairman of the Civic and Industrial Relations Committee met with the Legislative Committee in Lansing, Saturday, March 21. At this meeting the Legislative Committee requested that the Civic and Industrial Relations Committee take up the problem of requesting the various County Societies to appoint a Civic Relations Committee, the function of the County Civic and Industrial Relations Committee to be that of studying civic problems in the various communities, to provide for a corps of speakers to be placed at the disposal of Parent Teachers Associations, Associations of Commerce, organizations of dentists, attorneys, churches, manufacturers, etc., the idea of this being that in the future, by conducting campaigns of publicity through these organizations as well as the newspapers, the public will gain a better conception of the intentions and relations of the medical profession to the community.

The idea of the appointment of a County Civic and Industrial Relation Committee is an outgrowth of the present controversy over the legislation of the Chiropractic Bill.

The Chairman of the Civic and Industrial Relations Committee wishes to be authorized, if it meets with the approval of the council of the State Society, to communicate with every County Society, either direct or through the Secretary of the State Society, urging that such a local committee be appointed. The Chairman of the Civic and Industrial Relations Committee further wishes to be authorized to follow up this correspondence by sending out members of the committee to the various localities to inspire the committee to become active.

The Legislative Committee has requested that the Chairman of the Civic and Industrial Relations Committee meet with them every Saturday night in Lansing during the present session of legislature. If this is the wish of the council, will you kindly authorize my expenses for these weekly trips to Lansing?

Kindly take this matter up with the council and let me know their decision.

Sincerely yours,

Harrison S. Collisi, M.D.
Chairman, Civic and Industrial Relations Committee.

After considerable discussion upon motion of Hafford-Carstens, the Secretary was directed to inform the Chairman that by reason of the experiences of the councilors and officers of the society it was deemed advisable to concentrate all county activities in the officers, or the Executive Committee, or the Board of Directors of county medical societies, and that it was not deemed to be to the best interest of the society to appoint numerous and varied state or local committees because our past experiences have been that greater ends were attained when concentrated effort was exhibited in conformity with the general policies and program of the State Society. This motion was carried and the Secretary was directed to so advise the committee.

13. The Secretary presented the following communication from the Legislative Committee:

April 10, 1931.

Frederick C. Warnshuis, M.D.,
Grand Rapids National Bank Bldg.,
Grand Rapids, Mich.

Dear Doctor Warnshuis:

The Legislative Committee, as the result of the appearance of numerous bills which have passed, would enlarge the scope and authority of the Governmental Health Agencies, and have voted to call to the attention of the Council the fact that there is very great interest regarding the extent to which the county health unit plan should be placed in effect. We believe that this matter should be given full publicity so that all physicians will be thoroughly informed regarding the growth of this movement and its future possibilities.

The committee suggests that the council appoint a special committee to study the problem of Public Health in Michigan, so that it will be definitely understood by the practitioners of curative medicine and the public health workers the exact relationship between the two groups and the place that each should assume in improving the health of the people of Michigan.

Among the average physicians there is widespread interest in this question of socialized medicine and I believe that the State Society will be doing a great favor if they will make a thorough study and present definite rules to govern the future conduct of the profession in regard to this matter.

Yours sincerely,

A. H. Whittaker, M.D.

After considerable discussion it was moved by McIntyre-Heavenrich, and carried, that the Secretary answer the communication received and point out that the Council is actively alert and interested in the several health units that are functioning in the state; that the Council and the Executive Committee have frequently met and discussed with representatives of health organizations and officials and those who are directing the activities of special foundations; that the Council point out the fact that this special session evidences the interest and activity recorded by the Council in these subjects; and that the Council purposes to continue to represent and conserve the interest of the profession in all health activities that are now being conducted or that may be advanced in the future.

The Secretary is hereby instructed to publish in full detail the discussions that were engaged in during the afternoon session of this special meeting, and that he prepare a synopsis of these discussions to be sent to the officers of each county medical society and that he further prepare a questionnaire which shall be sent to the individual doctors in the counties in which health units are now established and in which the foundations in Michigan are active; that he shall compile the information obtained from these questionnaires and that he shall refer this compilation to the Executive Committee, and that the results and recommendations of the Executive Committee, formulated upon the answers received from these questionnaires, shall be incorporated in the annual report of the Council to the House of Delegates. This action was adopted by the Council.

14. The Secretary presented the following communication of the Michigan State Tuberculosis Society:

Resolution Adopted by the Board of Trustees of the Michigan Tuberculosis Association

Olds Hotel, March 5, 1931

In order that the medical program proposed by the Medical Advisory Committee may be most effectively realized, be it resolved:

First. That responsibility for the medical work of the Association be vested in a permanent Medical Committee to be constituted of the medical members of the Executive Committee augmented by the following:

1. The Chairman of the Council of the State Medical Society.
2. The Chair of Medicine at the University of Michigan.
3. The Chair of Post Graduate Medicine at the University of Michigan.
4. Commissioner of Health of the State of Michigan.
5. The Health Officer of the City of Detroit.
6. Professor of Public Health and Hygiene of the University of Michigan.
7. Director of medical work of the Children's Fund of Michigan.
8. Director of medical work of the W. K. Kellogg Foundation.

Second. That the medical department of the Michigan Tuberculosis Association be assigned to the Department of Post Graduate Medicine of the University of Michigan and the Michigan State Medical Society, where it shall be administered and controlled by the head of the Department of Post Graduate Medicine of the University of Michigan and the Michigan State Medical Society with the permanent Medical Committee of the Michigan Tuberculosis Association acting in an advisory capacity.

Third. That the plan for medical work here referred to be adopted to function for three years, unless terminated earlier by mutual agreement of the interested parties, after which time it will again formally come before this body for review and reconsideration.

Fourth. That the Michigan State Tuberculosis Association, provided that the Post Graduate Medical Department of the University and the State Medical Society agree to assume the responsibility previously mentioned, will finance with reasonable sum of money the medical program which will be conducted by the above mentioned organizations, with the understanding that proper recognition of the Association's financial backing be made as work is carried out.

Fifth. That inasmuch as the Michigan Tuberculosis Association has previously had a medical department with certain specifically trained personnel in this field, that the Michigan Tuberculosis Association Board of Trustees would look with favor on the use of this personnel in the carrying out of this program under the new auspices.

Sixth. That for the balance of the present year 1931 the Medical Advisory Committee be continued

as the Permanent Medical Committee of the Michigan Tuberculosis Association with the understanding that the committee as outlined in paragraph one be set up with the next annual meeting of the Association.

It was moved by Brunk-Neafie, that the proposal of the Michigan Tuberculosis Society as revised and printed above be approved and that the State Medical Society in conjunction with the department of Post Graduate Medicine of the University of Michigan accept this tender and assume this activity of post graduate education in the conducting of diagnostic clinics for tuberculosis.

15. During the afternoon session Dr. Carey presented an invitation from the Children's Fund of Michigan to the Michigan State Medical Society to appoint a representative of the society to serve upon the advisory medical committee of the Children's Fund. Upon motion of Bruce-McIntyre, this invitation was accepted and the Council elected the Chairman of the Council as the society's representative upon this advisory committee.

The Secretary was directed to address a letter of appreciation and thanks to Dr. Carey for this invitation on behalf of the Children's Fund, and also to express the Council's appreciation to him for his participation in the afternoon discussion and his expression of the desire of the Children's Fund to work in close coöperation with the medical profession of Michigan.

16. The Chairman of the Council announced the appointment by the Governor of Dr. Richard R. Smith of Grand Rapids as a member of the Board of Regents of the University of Michigan to fill the unexpired term of Dr. W. H. Sawyer, deceased. Upon motion of Heavenrich-Powers, the Council instructed the Councilor of the Fifth District together with the Secretary of the State Society to arrange for and tender a dinner complimenting Dr. Smith.

17. The Council discussed some of the legislative problems that confront the profession in this state. No definite action was taken other than to instruct Dr. Bruce to confer with the Chairman of the Legislative committee and to present the information obtained at this conference at the next meeting of the Executive Committee.

18. Upon motion of Ricker-Brunk, the Council decided to convene in regular session at 3:00 p. m. on Monday, September 21, 1931, in Pontiac.

The Council adjourned at 10:30 p. m.

F. C. Warnshuis,
Secretary.

W. H. SAWYER

On Tuesday, April 28, 1931, occurred the sudden death of Dr. Walter Hulme Sawyer. Dr. Sawyer was stricken while playing golf with a party of friends and death followed immediately.

As we recount the varied activities in the life of Dr. Sawyer we are impressed anew with his versatility. First of all, we of the profession recount his achievements as a physician; the conscientious practitioner; the wise counselor; the skillful surgeon, giving of himself unstintedly for the health and welfare of his fellowmen. The profession of the state recognized the high quality of his work, counted him as a leader in the medical field, and gladly bestowed honor after honor upon him. But tributes in even a gentler tone are his today; these are the unrecorded ones which rise to the lips of people in every walk of life, whom he has served so unselfishly and so well. He was indeed "the Beloved Physician."

Always interested in things educational, he found time in his busy life as a doctor, to lend extraordinary service in this line to both his community and the state. He served on the Board of Education in Hillsdale for 36 years, was a member of the Board of Trustees of Hillsdale College for 35 years and for many years was a member of the prudential committee of this body. For 26 years he was a member of the Board of Regents of the University of Michigan. His clear judgment and wisdom have had much to do with molding the future policies of the institutions of learning in our state. In 1926 Hillsdale College conferred upon him the degree of Doctor of Laws.

Naturally a leader, his friends were constantly calling upon him for his services, particularly in discussion at medical meetings where he was an able, brilliant speaker. Also in a legislative way was his power felt, and his contribution for constructive medical legislation can not be calculated.

But above all and shedding its radiance throughout his life was his capacity for loyalty and friendship. His loyalty to his profession, his community, his Church, his friends was inspirational to all who were fortunate enough to know him. His was a rarely sweet spirit. How vividly we recall that prompt, able, kindly helpfulness that was such an integral part of his personality. Its benediction lingers. His life was an exemplification of the thought expressed by Ella Wheeler Wilcox:

> "So many gods, so many creeds,
> So many roads that wind and wind
> When just the art of being kind
> Is all this sad world needs."

Walter Hulme Sawyer was born in Lyme township, Huron County, Ohio, August 10, 1861, the son of George and Julia A. (Wood) Sawyer. His grandparents came from England and were early settlers in Ohio. His parents were prosperous farmers in Ohio until 1874, when they moved to Grass Lake, Michigan. He was educated in the public schools of Grass Lake and at the University of Michigan in both the arts and medicine. He graduated from medical school in 1884. He was house-surgeon at the University of Michigan Hospital 1884-1885. July

11, 1885, he located in Hillsdale for the practice of his profession.

On June 14, 1888, he was united in marriage with Miss Harriet B. Mitchell, daughter of Charles C. T. Mitchell and Harriet S. (Wing) Mitchell. To this union was born one son, Thomas Mitchell Sawyer, who, with two grandsons, survives. Members of his immediate family also surviving are one brother, Thomas J. Sawyer of Jackson, and two sisters, Nellie Sawyer Clark of Ann Arbor and Mrs. Edward Crafts of Grass Lake. Mrs. Sawyer died in November, 1929.

For many years Dr. Sawyer was surgeon for L. S. and M. S. R. R. at Hillsdale; president Oak Grove Hospital for Nervous Diseases, Flint, Michigan; Vice-president of Policy Holders' Service and Adjustment Co.; director Hillsday Scheen Co.; member Michigan State Board of Registration in Medicine 1898-1906; president Michigan State Medical Society 1913; member National Legislative Council A. M. A.; corresponding member Detroit Academy of Medicine; Member Tri-State Medical Society; fellow American College of Surgeons; Regent University of Michigan since 1905; trustee Hillsdale College; member Hillsdale School Board 35 years; LL.D. Hillsdale College, 1926; member Republican State Central Committee 1898-1904; member Staff Hillsdale City Hospital; contract surgeon for the U. S. Army during World War; Volunteer Medical Service Corps; State Committee National Defense; Episcopalian. His fraternal affiliations were as follows: Hillsdale Lodge No. 32 F. and A. M., Hillsdale Chapter No. 18 R.A.M., Eureka Commandery No. 3 K.T. Detroit Consistory, Hillsdaye Lodge No. 17 I.O.O.F., and Leighr A. Wright Post No. 53 American Legion. He was a member of the Detroit Club, the Prismatic Club of Detroit, Jackson City Club, The Michigan Union at Ann Arbor, Hillsdale Commercial Club, Hillsdale Country Club, member of Vestry St. Peter's Episcopal Church. He was in practice in Hillsdale since 1885.

We pause to consider his busy, useful life. The professional, political and social life of the state has suffered an irreparable loss. But we of his immediate community feel the loss with increased intensity.

We shall miss him in the affairs of the day, his kindliness, his intelligent coöperation for things worth while, his sympathy.

It is with profound sorrow that the members of the Hillsdale County Medical Society bow to the inevitable.

D. N. Fenton,
Secretary.

COMMENDABLE WORK

The following letter indicates how, by concerted effort, desirable activities may be instituted. It offers an objective for several of our county societies.

April 23, 1931.

Dear Dr. Warnshuis:

Answering your communication of April 21 relative to the work of our public health committee, I am pleased to advise you as follows at this time. We have inaugurated four projects. *One,* we have extended an invitation to both the Grand Rapids Herald and the Grand Rapids Press to send a reporter to all meetings of the Kent County Medical Society. In this connection we have also stated that when the meeting is a dinner meeting provision will be made for dinner for the reporter if he will let his presence be known. We have requested that the reporter covering our meetings interview the Chairman of the meeting before leaving in order to avoid misstatement and wrong interpretation of anything that is said in the meeting. *Two,* we have arranged with the American Medical Association to furnish both of the above mentioned papers with the medical broadcast for the week in sufficient time for them to have them appear in the Sunday and Monday editions weekly. *Three,* through the courtesy of Mr. Frank Sparks, editor of the Grand Rapids Herald, we will publish in the magazine section of the Sunday edition, weekly, a public health article. These articles are to be written by members of our County Society and published under the authority of the Society by our committee. For the present these articles will be anonymous but the newspapers are very anxious that the author's names appear with the article. They explain this by the fact that the public is much more interested in reading anything if they know the writer. These articles are to be approximately one thousand words in length, written in popular language and dealing with some particular subject. The space required in the paper is the equivalent of one full column and is donated by the Grand Rapids Herald provided we agree to use as outlined. *Four,* several members of the Society have already agreed to coöperate in the matter of circularizing their own patients with pamphlets on public health. These pamphlets will be provided through the committee and will be of such size that they can be enclosed with statements on the first of the month. We expect to obtain these pamphlets from the biological and pharmaceutical houses without their names appearing on the same. All the coöperating doctors will be furnished with the same pamphlets at the same time.

This covers the work contemplated by our committee at the present time. Thanking you for your inquiry and hoping this may be of some value, I am

Very truly yours,
E. B. Andersen,
Chairman Public Health Committee
516 Medical Arts Bldg.

CIVIC AND INDUSTRIAL RELATIONS

The Civic and Industrial Relations Committee held a meeting at the Wayne County Medical Society club rooms, in Detroit, April 20. The following committee members were present: Doctors C. S. Gorsline, Battle Creek; Don F. Kudner, Jackson; E. P. Wilbur, Kalamazoo; E. I. Carr, Lansing; H. F. Dibble, Detroit; L. O. Geib, Detroit; Grover C. Pemberthy, Detroit; Harrison S. Collisi, Grand Rapids, J. Sundwall, Ann Arbor, (Chas. E. Planck, Reporter for Legislative Committe), H. W. Porter, Jackson; H. A. Luce, Detroit, and A. H. Whittaker, Detroit. The business session convened at 7:00 P. M.

1. the insurance question

The Chairman reported events to date and read the resolution which had been sent to the Secretary of the American Medical Association through Doctor J. D. Brook, one of the Michigan delegates. It was pointed out that it was necessary for the Chairman to send in the resolution, prior to the committee meeting, in order to conform to the ruling of the American Medical Association, that all resolutions for the consideration of the House of Delegates be in the hands of the Secretary prior to April 15. Doctors Gorsline-Geib moved that the Chairman's action be approved by the Committee. Unanimously carried.

Correspondence was read from the Travelers Insurance Company, and reference was made to complaints of physicians that certain insurance companies were refusing to pay fees for filling out claim blanks. The question of publishing a list of insur-

ance companies, who were unwilling to pay fees to physicians, was discussed. It was not deemed advisable to compile such a list until after action had been taken by the American Medical Association. However, it was decided to urge physicians to adhere strictly to the meaning of the Michigan Resolutions and to continue refusing to fill out claim blanks unless advance payment of the fee was made by the insurance company.

Some of the committee members believed that wide-spread publicity should be given to other State Societies on the proposed resolution to be introduced to the House of Delegates of the American Medical Association. Doctors Kudner-Gorsline moved that the Civic and Industrial Relations Committee recommend to the Council of the Michigan State Medical Society that they request from the Secretary of the American Medical Association the privilege of sending to the secretaries and delegates of every State Medical Society a communication urging that prompt and definite action be taken on the insurance resolution at the meeting in Philadelphia, and to include also a printed copy of the insurance resolution. This motion was unanimously carried.

It was agreed that a communication of this sort should come from the Council of the Michigan State Medical Society rather than from the Civic and Industrial Relations Committee.

2. CIVIC RELATIONS COMMITTEES

Proposed organization of Civic Relations Committees in County Societies was next discussed. The Chairman related that a close relationship existed between the Legislative and Civic and Industrial Relations Committees, and that much could be accomplished by them working jointly in publicity work, involving civic and industrial questions. Doctor Sundwall, Chairman of the Legislative Committee, who was present, was called upon to explain in detail his version of this question. The subject was extensively discussed by all members present. Doctors Carr-Kudner moved that the Chairmen of the two committees be requested to formulate plans and suggestions for the organization of publicity and Public Relations Committees and to present their conclusions at a joint meeting of the Legislative and Civic and Industrial Relations Committees to be held in Lansing as soon as convenient. Unanimously carried. It was proposed to submit the recommendations of the combined committees to the Council of the State Society for final action.

Meeting adjourned at 10:15 P. M.

Harrison S. Collisi, M.D.,
Chairman.

COUNTY SOCIETIES

GRAND TRAVERSE-LEELANAU COUNTY

The regular meeting of the Grand Traverse-Leelanau County Medical Society was held at the J. D. Munson Hospital, Traverse City, on March 3, 1931, President Kernkamp calling the meeting to order at 7:30 P. M.

The following members were present: Drs. Gauntlett, F. Holdsworth, M. J. Holdsworth, Inch, Kyselka, Minor, Sladek, Swartz, Thirlby, Way, Kernkamp, and Murphy.

The minutes of the February meeting were read and approved.

Four reels of motion pictures, "Traumatic Surgery of the Extremities," were then shown.

All other business was postponed to give Dr. A. H. Whittaker, Detroit, Secretary of the State Society Legislative Committee, the rest of the evening. He conducted an exhaustive round table discussion of all proposed legislation pertaining to our profession.

Motion, F. Holdsworth-Minor, that the Society approve of the proposed Amendment to the Medical Practice Act was carried.

Motion, Gauntlett-Minor, that the secretary write to each member of the society explaining the letter of February 9, 1931, relative to insurance company reports and charges for filling them out was carried.

The meeting adjourned.

E. F. Sladek, *Secretary.*

The regular meeting of the Grand Traverse-Leelanau County Medical Society was held at the J. D. Munson Hospital, Traverse City, on April 7, 1931. Dr. Kernkamp in the chair.

The following members were present: Drs. Gauntlett, F. Holdsworth, M. J. Holdsworth, Holliday, Inch, Kyselka, Minor, Rinear, Sheets, Sladek, Swartz, Thirlby, Thompson, Brownson, Hastings, Kernkamp, and Evans as guest.

Minutes of the March meeting were read and approved.

A report from Miss Compton, school nurse, regarding the results of the Schick Clinic at the schools, was read. The report was very encouraging as to results of the giving of T.A.T.

A letter from Dennis Boyle, a lawyer in Detroit, was read, in which he warned the profession against certain provisions in the new medical practice act. Considerable discussion took place resulting in no change of our attitude towards the bill.

Dr. E. E. Evans, roentgenologist of the Munson Hospital, showed an elaborate series of X-ray films detailing progressive stages of tuberculosis of the lungs. Along with the films he talked about the physical signs and corresponding X-ray findings of various types of pulmonary tuberculosis, with a short résumé on prognosis and treatment.

A successful meeting was adjourned at a late hour.

E. F. Sladek, *Secretary.*

HILLSDALE COUNTY

The regular quarterly meeting of the Hillsdale County Medical Society convened at the Orange Lantern Tea Room, Hillsdale, at 6 o'clock P. M. for dinner.

After the dinner the society adjourned to the Mitchell Library where in the absence of both President and Vice President, Dr. Sawyer was nominated and elected President pro tem. He then introduced the speaker of the evening, Dr. Reed M. Nesbitt of the University of Michigan, who addressed the society on the subject of "The Significance of Pus in the Urine," in a most instructive manner.

He brought out the bearing of this symptom in the diagnosis and differentiation of a great number of diseased conditions ranging from simple cystitis to such grave diseases as tuberculosis and cancer of the kidney and a variety of ailments of every grade of suffering and danger. Of special value to the general practitioner of medicine was his classification of the groups of symptoms in which this coundition is found, giving the average physician hints in diagnosis, enabling him to deal successfully with cases himself and to determine when to send these cases to medical centers that they may have the benefit of the most advanced and expert diagnosis and treatment.

The discussion was ably opened by Dr. Sawyer,

followed by a very full and exhaustive general discussion in which Dr. Nesbitt was asked a large number of questions which he answered.

After the close of the meeting, Dr. Nesbitt was very cordially thanked for his masterly address, it being conceded that this was one of the most instructive meetings the society has held for a long time.

The meeting then adjourned.

D. W. Fenton, *Secretary.*

GRATIOT-ISABELLA-CLARE COUNTY

The April meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Wright House, Alma, Thursday, April 16. Seventeen members and nine visitors had dinner together.

President Harrigan called the meeting to order. Minutes of the previous meeting were read and approved. Communications were read from the State Secretary relative to insurance examinations and the new medical practice act now in the State Legislature. There was considerable discussion of these questions, but no action was taken.

President Harrigan then introduced Doctor F. B. Tibbals, of Detroit, who discussed "Medical Defense," relating the details of the beginning of medical defense by the State Society.

The doctor gave us many valuable pointers on this subject and also answered many questions.

On behalf of the Society President Harrigan thanked Doctor Tibbals for his interesting address.

E. M. Highfield, M.D., *Secretary.*

JACKSON COUNTY

The April meeting of the Jackson County Medical Society was called to order by Dr. Ferdinand Cox, President, in the Memorial Room of the Elks Temple on Tuesday evening, April 21, after a six o'clock dinner. Because of the interest in tuberculosis, Dr. Clarke moved that a committee be appointed to select a group of children to be given the Mantoux test and to follow these cases up. Motion seconded by Dr. Town. Motion carried. Dr. Cox then appointed on the committee Dr. Frank VanSchoick, Dr. Hanna and Dr. Bullen.

Dr. George Pray, the representative of the Medical Society on the Better Business Bureau of the Chamber of Commerce, reported that the Chamber is intending to run two advertisements of medical nature in the local papers after they have been approved. Dr. McLaughlin reported on the progress of legislation of interest to medicine. Dr. John Smith stated that the County Board of Supervisors were now willing to send all county indigent cases to the local hospitals instead of to the University Hospital at Ann Arbor. The fee schedules for both the hospital charges and for medical services have been agreed upon. As the hospital fees are the same at both hospitals, the patient may be allowed to choose which hospital he wishes to enter. Dr. Riley moved that a copy of the fee schedule for the care of county indigent cases be sent to each member. Motion carried.

Dr. E. C. Taylor, who has spent the last three years in Florida and who has recently returned to Jackson to practice, was welcomed back on behalf of the Society by Dr. O'Meara. Dr. Taylor responded and promised the Society a party in the not distant future.

The President of the Helmer School Parent-Teacher Association called and asked if the doctors were intending to examine the pre-school children at their offices free of charge again this year as was done last year. This brought forth considerable discussion. Dr. Crowley moved that the work not be done free this year. Motion carried. Dr. Bullen then asked if the Society thought that this work should be done by the school physician. Dr. Smith moved that this subject be turned over to the Health Education Committee, who should report to the Society at the next meeting. Motion carried.

Dr. Porter moved, and Dr. Culver seconded the motion, that the Society purchase a copy of the Medical History of Michigan, to be kept at the Secretary's office for the use of the members. Motion carried. Dr. Kudner announced a meeting of Industrial Surgeons to be held in Detroit April 24-25. Everybody interested is invited. Dr. George Pray presented the application of Dr. Normal Wilson for membership in the Society. This was turned over to the Membership Committee. The meeting was then turned over to Dr. Thayer, Program Chairman, who introduced Dr. Raphael Isaacs, Assistant Director of the Simpson Memorial Institute in Ann Arbor. Dr. Isaacs spoke on the "Diagnosis and Treatment of Anemia," and made the subject very interesting as well as amusing. Everyone enjoyed the talk. Attendance, 55.

KALAMAZOO ACADEMY

A regular meeting of the Kalamazoo Academy of Medicine was held April 21, 1931, in the Academy rooms and was called to order by Dr. Sherman Gregg.

The report of the Board of Censors investigating the quality of the publications to be issued in the local newspaper was read by Dr. Gregg and is as follows:

REPORT OF COMMITTEE

Report of the Committee of Members of the Kalamazoo Academy of Medicine delegated to review the proposed articles to appear in the Gazette on education.

Resolved That:

(1) This committee is of the opinion that the members of the Academy can edit a series of educational articles that will fulfill the requirements of the Academy and the community better than those presented by the Gazette, which we have read, and disapprove of.

(2) It is our suggestion that the Academy undertake at the present time to edit and publish a series of articles to replace to a large measure those presented to the Academy by the Gazette.

(3) We recommend that a committee be appointed at once, to prepare or secure such a series of articles and that they be sent the Gazette to take the place of the copyrighted series of articles previously presented.

Signed,

Alton E. Pullon,
Committee.

Dr. Boys and Dr. R. F. Snyder moved that the report be accepted and that the committee continue to function and obtain suitable articles to be published. Discussion by Drs. Crane, Morter and Aach.

Dr. Crane and Dr. Gerstner moved that the report of the committee be laid on the table. Carried.

Communications were read.

Dr. Crum reported that the National Chamber of Commerce is instigating an Inter-City health contest. The local Chamber of Commerce is willing to enter the contest if they could be assured of the aid and sponsorship of the Academy. Dr. MacGregor and Dr. Crum moved that a committee be appointed to work with the Chamber of Commerce to determine the advisability as to whether the city should

enter the contest. Carried. Dr. Gregg appointed a committee composed of Drs. MacGregor, Crum and Crawford.

Dr. Boys called the attention of the Academy to the fact that the Kalamazoo District Nurses' Association must rent a hall to hold their meetings and that, inasmuch as they are an associate body of the Academy, he and Dr. Wescott moved that the Board of Directors extend to the nurses of this district an invitation to hold their meetings in the Academy rooms. Discussion by Drs. Crane, Boys and Shepard revealed that the motion was out of order as such action might jeopardize the Academy's ownership of the rooms.

Dr. F. T. Andrews recalled that the delegates to the State Convention last year were instructed to put in a bid for the 1931 State Meeting, but were defeated. He stated that if the 1932 State Meeting is desired a notice of such intention should be filed at least sixty days before the Annual Meeting in Pontiac in September. Drs. MacGregor and Crawford moved that Dr. Andrews be instructed to put in a bid for the State Meeting in 1932. Carried.

Dr. Jackson read the report of the committee for the Resolutions on the death of Dr. Harriet Stone. He and Dr. Berry moved that a copy of the resolutions be spread on the minutes of the meeting and a copy be sent to the family. Carried.

MANISTEE COUNTY

The Manistee County Medical Society were hosts to the doctors of this section of Michigan on May 13, at which time a live Post Graduate Conference was furnished us by the State Society.

Dr. Fredrick A. Coller of Ann Arbor gave a lecture on "Appendicitis" that pleased all with its clarity, brevity, and practicality and followed with a talk on "Newer Anesthesia" that gave us all something to mull over in our minds, especially as regards the developments of the so-called postoperative pneumonias, demonstrating very nicely that a certain percentage of their cases were atelectases.

The State Secretary, Dr. Warnshuis, gave a rapid and interesting résumé of the Medical Practice Act and informed us of what the State Board of Registration is doing.

Doctor Coller's associate, Doctor Maddox, of the Ann Arbor staff, gave a demonstration of the treatment of varicose veins that was interesting, instructive and worth while.

The demonstration of immunization methods by Dr. C. C. Young, of Lansing, was timely and much appreciated, as Doctor Young's talks always are.

The meeting was concluded by Dr. J. W. Kemper, who talked on "Fractures of the Jaw and Maxilla," and was well received.

E. C. Oakes,
Secretary.

MECOSTA COUNTY

The regular meeting of the Mecosta County Medical Society was held Tuesday, April 14, at the Western Hotel, Big Rapids, Michigan.

Present: Drs. MacIntyre, Burkart, Yeo, Treynor, Grieve, Campbell, Peck, Franklin, Kelsey, Bunce, Holm, Clark, Stibal, Chess, Gillett, and Kilmer.

At 6:45 p. m. seventeen members and two guests, Dr. E. R. Van der Slice and Dr. Holm, Jr., sat down to an excellent dinner provided by Drs. MacIntyre and Treynor, our hosts. Later in the evening, Dr. Ricker of Cadillac came in. At 7:45 p. m. President MacIntyre called the meeting to order. Minutes of the last regular meeting were read and approved.

Communications included a card of thanks from Dr. Burkart and family in Pittsburgh, Pa., for beautiful flowers sent; invitation from Kent County Medical Society to attend meeting of April 17, when Dr. Joseph Colt Bloodgood would be speaker of the evening; letter from State Commissioner of Health, Dr. C. C. Slemons of Lansing, calling attention to the low maternal mortality rate in Michigan during 1930 and the high rate in Mecosta and Osceola counties; the former being 9.0 or 52.5 per cent higher than the State rate. The latter, Osceola, showing 12.0 or 103.5 per cent higher than the State rate.

Communications received were placed on file. Dr. Treynor, moved, supported by Dr. Grieve, that a committee be appointed to draft resolution of condolence on the death of Mrs. J. L. Burkart, on March 20, at her home in Pittsburgh; copy to be mailed to members of the family and spread upon the minutes of the meeting.

President MacIntyre advised the Society that several of the county societies were admitting regularly, qualified dentists to associate membership in the societies. The matter was discussed by Drs. Kelsey, Treynor, Bunce and others, and at the close of the discussion Drs. Kelsey and Bunce moved that the dentists of Mecosta and Osceola Counties be admitted to associate membership in our Society on payment of membership fee of $5.00 per annum.

Dr. Campbell asked for an opinion on the advisability of merging the counties of Mecosta, Osceola, Newago, and Lake in a County Health Unit under the Couzen's plan. An active discussion was participated in by nearly all the members present, and Dr. Ricker of Cadillac revealed opposition to the plan. Dr. James B. Campbell was authorized to present our views to the Board of Supervisors of Mecosta County now in session. This was done, and the Board of Supervisors opposed the project of merging with the counties named.

The meeting was then turned over to the Program Committee. Dr. Yeo, chairman, said that due to an automobile accident, Dr. C. C. Young, Director of the Laboratory of the State Department of Health, could not be present, but Dr. E. R. Van der Slice of Lansing would speak on "Methods of Diagnosis in Tuberculosis of Ten Years Ago and Now." Dr. Van der Slice then read a paper which he had previously written on this subject seven years ago, and drew comparisons by giving the present view on the subject. X-ray pictures were exhibited and interpretations given by the speaker. Discussion of the subject brought out much that was of interest on the value of "flat plates."

On motion of Dr. Franklin, supported by Dr. Kelsey, a rising vote of thanks was given the speaker of the evening and our hosts, Drs. MacIntyre and Treynor. The President announced that a clinic would be held at Manistee, Michigan, on the second Thursday in May, to which all were invited.

No further business being presented, the meeting adjourned.

Jno. L. Burkart, *Secretary.*

WAYNE COUNTY

The doctor-lawyer meeting of May 5 between members of the Wayne County Medical Society and the Detroit Bar Association was a big success. Six hundred representatives of the two professions met in the Society's auditorium to hear Mr. Henry C. Walters, Dr. L. J. Hirschman and Dr. Wm. J. Stapleton, Jr., discuss ways and means how these two leading professions can better serve the public. The meeting resulted in a Resolution, introduced by Mr. Walters, recommending the appointment of a joint

committee, five from each profession, to work in the interests of closer coöperation for public benefit. It is planned to hold a joint meeting of these two groups every year.

The American Medical Golfing Association will hold its Seventeenth Annual Tournament over the Aronimink Country Club course at Philadelphia, June 8. The announcement has been sent to all active members from the Executive Office, 1124 Maccabee Bldg., Detroit. Three hundred doctors are expected to tee off and compete for the thirty prizes in the seven events. It is rumored that a Michigan man is slated to be the next president of the Golfing Association.

The Cafe of the Wayne County Medical Society served 2,148 luncheons during the month of April, 1931. The total income from all sources amounted to $1,250.25. The roof garden, a colorful spot on the eleventh floor of the Maccabees building, replete with rock gardens and blooming gardens, was formally opened to the membership for the summer season on May 28. Out-of-town physicians are cordially invited to take luncheon on the Wayne County Medical Society Roof when they are visiting in Detroit.

Information on the so-called "American Society for the Conservation of Vision," 1710 Book Tower, Detroit, may be procured by members of the Michigan State Medical Society who write the Executive Office of the Wayne County Medical Society, 1124 Maccabees Bldg., Detroit.

The Medical Science of the Detroit Public Library is in need of an extra copy of Volume 29 (1930) of the Journal of the Michigan State Medical Society. Any member having an extra copy of this volume will help the Medical Library by advising Miss Marjorie J. Darrach, 629 Mullet St., Detroit.

A résumé of the new Automobile Financial Responsibility Laws, which are in operation in thirteen states and two Canadian provinces, was printed in the May 5 Bulletin of the Wayne County Medical Society. Any member of the State Society desiring a copy of this issue may procure same by writing the Executive Office.

The Detroit Board of Commerce Cruise of four days is set for June 18 to 22. Dr. A. H. Whittaker of Detroit is the Cruise Physician. It is anticipated that a score of members of the Wayne County Medical Society will take this Cruise and meet the business leaders of Detroit.

Mail passing over the desks of the Executive Office of the Wayne County Medical Society during April amounted to 4,347 pieces, or 167 per day for 26 working days. This compared with other months as follows: January, 2,308, or 88 per day; February, 3,324 pieces, or 138 per day; March, 5,139 pieces, or 197 per day.

The election of the Wayne County Medical Society on May 19 resulted in the following: For president-elect, Dr. H. Wellington Yates; for secretary, Dr. E. D. Spalding; and for trustee, Dr. J. M. Robb. The Noon Day Study Club, composed of physicians and surgeons under the age of forty, entertained the new officers at its annual banquet, May 20, in the club rooms of the Society.

Dr. Burt R. Shurly, a member of the Wayne County Medical Society, is running for Congress to represent the Fourteenth District of Michigan.

Have you any books (not medical) such as novels, histories, dictionaries, etc., for which you have no further use? If so, send them to the Chaplain at the Michigan State Prison as the books that are now in the Library are old and in poor condition. Send them by express and the charges will be paid by the authorities at Jackson. Address Dr. Richard W. McLain, Chaplain, Michigan State Prison, Jackson, Michigan.

Dr. Howard W. Haggard's talks over the Columbia Broadcasting System every Sunday at 8:00 P. M. are well worthy of your attention. In fact, you should advise your patients to hear these talks which are very entertaining and show the benefits which have resulted to the world from medicine and medical men.

Harry M. Hoxsey, formerly connected with Norman Baker of Muscatine, Iowa, who recently headed an alleged cancer clinic in Detroit, was convicted of practicing medicine without a license by a Detroit jury on May 8th. Hoxsey was released by Judge Skillman under a $2,000 bond and sentence was deferred one week to permit preparation of a report by the Court Probation Department. The "medical director" of the so-called clinic, Dr. Homer Van Hyning, recently had his license revoked by the State Board of Registration in Medicine, although he is practicing under a stay of revocation granted by the State Supreme Court, pending an appeal.

The report of the Bureau of Investigation of the American Medical Association on the Spectro-Chrome Institute and Col. Dinshah P. Ghadiali, "M.E., M.E., D.C., Ph.D., LL.D., etc.," is available Write the Wayne County Medical Society for a copy.

Newly elected officers who will head the Medical and Surgical Sections of the Wayne County Medical Society during the year beginning July 1 are as follows: Medical Section: Dr. D. P. Foster, chairman, and Dr. C. D. Moll, secretary; Surgical Section: Dr. C. S. Kennedy, chairman, and Dr. N. K. H'Amada, secretary.

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, President, Jackson, Mich.
MRS. W. L. FINTON, Secretary, Jackson, Mich.

Our newly appointed Organization Chairman, Mrs. F. T. Andrews, 2325 Crane Ave., Kalamazoo, has been very active, having visited a number of counties, some of which she hopes to organize this spring. If you can assist her in any way, or need aid in organizing a new society, she will be pleased to hear from you. The State treasurer reports that dues have been received from eight counties and our State paid membership gives us four delegates to the National Convention to be held in Philadelphia June 8-12. We expect to be well represented at that time and know that our delegates will bring back to us, both in their own meetings and to our Convention, the inspiration received from such a meeting. Do not fail to notify the treasurer of your newly elected officers with addresses.

Mrs. Urmston urges upon you the necessity of sending reports to her, of your Auxiliary activities, as she is helpless without material for our page in the Journal which has been so generously given to us.

Yours respectfully,
Mrs. P. R. Urmston,
Publicity Chairman.

Do not forget the date of the American Medical Association which meets this year in Philadelphia. The dates are June 8 to 12, inclusive.

THE DOCTOR'S LIBRARY

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 11, No. 1. (Chicago Number—February, 1931.) 225 pages with 72 illustrations. Per clinic year (February, 1931, to December, 1931): paper, $12.00; cloth, $16.00. Philadelphia and London. W. B. Saunders Company, 1931.

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 14, Number 5. (Chicago Number—March, 1931.) Octavo of 255 pages with 21 illustrations. Per clinic year (July, 1930, to May, 1931): paper, $12.00; cloth, $16.00 net. Philadelphia and London. W. B. Saunders Company, 1931.

A TEXTBOOK OF LABORATORY DIAGNOSIS WITH CLINICAL APPLICATIONS FOR PRACTITIONERS AND STUDENTS. By E. E. Osgood, M.A., M.D., Assistant Professor of Medicine and Biochemistry, Director of Laboratories, University of Oregon School of Medicine, Portland, Oregon, and Howard D. Haskins, M.D., Professor of Biochemistry, University of Oregon School of Medicine. Twenty-one figures in the text, and six colored plates; 475 pages. P. Blakiston's Son & Co., Inc., Philadelphia, 1931. Price, $5.00.

This is a convenient book for the medical practitioner. Two-thirds of the work is devoted to the significance of laboratory methods in the diagnosis of disease. The normal conditions, the pathological deviations and their significance are briefly but adequately treated. The material is organized in eight sections: diseases of the urinary tract, disturbances of carbohydrate, protein and fat metabolism, pregnancy and its complications, disorders of the central nervous system, disorders of the gastro-intestinal tract, disorders of the ductless glands, hematology, and disorders of the respiratory and cardiovascular mechanism. The latter third of the work concerns the technical methods themselves. A special index classifies the tests and discussion according to particular diseases.

THE PHYSICAL BASIS OF PERSONALITY. By Charles S. Stockard, Professor of Anatomy and Director of the Anatomical Laboratories and the Experimental Morphology Farm in the Cornell University Medical School. Seventy-three illustrations, 320 pages. W. W. Norton & Co., Inc., New York, 1931. Price, $3.50.

In this work, one of the most versatile of American anatomists has tried "to make clear the physical factors underlying the origin of personality, and from this origin to carry the individual through the process of development producing finally the finished person." The title may at first appear misleading but as a survey of the present day biological concept of the individual—the real basis of an understanding of personality—the work is excellent. A wealth of material, mostly very recent, is covered, such as: the individual and his environment, the constitution of the germ cell, twins, experiments on embryos and their relation to personality, endocrine glands, and developmental changes in personality.

A considerable portion of the book is devoted to some recent experiments by Stockard. He has recognized that the pure breeds of dogs show close anatomical and functional resemblances to certain human freaks, the bulldog to achondroplastic dwarfs, the St. Bernard and Dane to acromegalic or gigantic individuals and the black and tan to midgets. Each of these dogs presents a constitution and personality which is exaggerated in some way in contrast to other dogs. By interbreeding one pure stock of dog with another and observing the various types of crosses a serious attempt is made to study the mechanism behind these differences. Personality is finally being subjected to analytical treatment. These results are presented here for the first time.

This readable and well organized account with its wide contacts with modern biological research should appeal to anyone interested in human individuality. It will be remembered that Dr. Stockard delivered the series of Beaumont lectures under the auspicies of the Wayne County Medical Society in 1927.

DISCOVERING OURSELVES, A VIEW OF THE HUMAN MIND AND HOW IT WORKS. By Edward A. Strecker, A.M., M.D., and Kenneth E. Appel, Ph.D., M.D. New York. The Macmillian Company, 1931. Price $3.00.

From the reviewer's viewpoint this is a very interesting work on mental hygiene. In medicine many of the best writers are neurologists or psychiatrists. The authors of this book bear out this contention. Both write well and are never at a loss for an apt illustration. The title is a popular one and the treatment of the subject is accordingly non-technical. While written for the intelligent layman, there is much information for the physician who is not a specialist in neurology or psychiatry. The physician will find in it a viewpoint that he has used less frequently than he should in his practice.

SIR D'ARCY POWER. Selected Writings 1877-1930. Oxford, the Clarenden Press, Oxford and New York.

This volume of the selected writings of the author was presented to him by his friends on the occasion of his seventy-fifth birthday on November 11, 1930. There are sixteen chapters in which the titles are sufficiently varied to suit any medical reader's taste. A few of these titles are John Hunter: a martyr to science; English Medicine and Surgery in the fourteenth century; The Fees of our Ancestors; Dr. William Harvey and St. Bartholomew's Hospital; A Revised Chapter in the Life of Dr. William Harvey; Why Samuel Pepys Discontinued His Diary; How the Tradition of British Surgery Came to America; On Cancer of the Tongue. The work is illustrated by sixteen plates for the most part reproductions of historic pictures and nine figures in the text. Sir D'Arcy Power is known to American readers by his work on William Harvey and very recently by a small volume entitled Medicine in the British Isles in the Clio Medicine series, Paul B. Hoeber, New York. A surgeon, Sir D'Arcy Power is a brilliant and interesting writer upon Historic Medicine and biographical subjects. The present collection of essays is scholarly. It is one of those volumes that should have a place in the library of those physicians and surgeons who prize the cultural contributions to the story of medicine.

THE PHYSICIAN OF THE DANCE OF DEATH. An Historical Study of the Evolution of the Dance of Death Mythus in Art. By Aldred Scott Warthin, Ph.D., M.D., LL.D., Professor of Pathology and Director of the Pathological Laboratories in the University of Michigan. With 92 illustrations. Price, $7.50. Paul B. Hoeber, Inc., New York, 1931.

This work is limited to one thousand numbered copies. The first one hundred are signed by the author and are specially bound. It is an artistic volume, one that does full justice to the publisher's long standing reputation for producing books that delight the eye of the art lover. The author relates how his interest in the subject first arose from viewing Dürer's "Ritter, Tod und Teufel," a copy of which he has treasured since his student days. A reproduction of this picture is the frontispiece of the work. An interest in death, the author maintains, is not of necessity a morbid one; it may be either scientific or philosophic. Dr. Warthin's study of man's changing reactions to the concept of death has included a period of six centuries. The work

began with the late fourteenth century, in the cloister of the churchyard of a monastery in the valley of the upper part of the Rhine. The concept is elaborated through different countries, as well as traced through different periods of history to the modern Dance of Death. The last eight pages include a complete bibliography of the subject.

PRACTICAL CLINICAL PSYCHIATRY FOR STUDENTS AND PRACTITIONERS. By Edward A. Strecker, A.M., M.D., Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia, Pa., and Franklin G. Ebaugh, A.B., M.D., Professor of Psychiatry, University of Colorado Medical School. Third Edition, enlarged and revised, with 47 illustrations in the text. P. Blakiston's Son and Co., Inc., 1012 Walnut Street, Philadelphia, Pa. Price, $4.00.

This work has grown from 375 pages in its first year of publication, 1925, to 553 pages in this third edition. The present edition has been enhanced by a chapter on Practical Aspects of Child Guidance Problems. Many diseases which in the beginning are strictly in the domain of internal medicine have been found to present problems for the psychiatrist and on the other hand psychiatric problems become those which are peculiarly the field of the internist. The authors have recognized this in the preparation of this work. Their aim has been to bring about the psychiatric viewpoint which develops the ability to treat not only physical symptoms but also the whims, peculiarities, personality and mind. In other words, an account is taken not only of physical conditions but of those which may be classified as mental as well. The case method of presentation has been adopted. The work is well written and well illustrated. Each chapter contains selected references for the reader who might wish to make further study than is embraced in the particular chapter under consideration.

PEPTIC AND DUODENAL ULCER IN TABES DORSALIS

Edward Livingston Hunt and James R. Lisa, New York (*Journal A. M. A.*, Jan. 10, 1931), report four cases. In each instance the patient had been under observation, the clinical diagnosis had been agreed on, and the autopsy had been made. The essential points in these cases were: The presence of a nonsyphilitic ulcer in a syphilitic patient; the fact that the terminal stage of the disease was due to the ulcer and not to the tabes; the failure to diagnose the ulcer before death; the fact that the diagnosis was overlooked because of the similarity of the symptoms; the fact that in one case there were bloody stools, and proof from the autopsy that the patient had tabes.

COMPARATIVE BIOLOGIC AND HISTOLOGIC STUDY OF LYMPH GLANDS FROM SYPHILITIC PATIENTS

The inguinal lymph glands from twenty-one syphilitic patients were removed and studied histologically and biologically by Eli Saleeby and Sigmund S. Greenbaum, Philadelphia (*Journal A. M. A.*, Jan. 10, 1931). In five cases they were able to find *Spirochaeta pallida* in the sections, while in others only dark stained granules were observed. In the animals, thirteen became positive after the first transplant and three after the second transplant. The organs from nine of the postive rabbits were studied histologically for spirochetes. The tests were positive in all the cases, the lymph glands in five and the heart and aorta in two. Dark stained granules were present in most of the lymph glands, and in the heart and aorta in one. These granules were mainly in the lymphocytes. The results of this study tend to compare the histologic and biologic methods with the clinical and laboratory diagnosis. They suggest the possible occurrence of a granular form of *Spirochaeta pallida* or some other species which cannot be definitely identified with our present diagnostic methods and present knowledge of the life cycle of this organism. Also they tend to show that the failure to find the organism in the remote tissues is partly due to the fact that after leaving the original focus of infection the majority of them are broken up into granules, probably by phagocytic cells, before going into the circulation. This is probably accomplished by the lymphocytes, as evidenced by the accumulation of the previously described granules in the lymphocytic cells of the lymph glands.

PRESENT-DAY MANAGEMENT OF STONE IN KIDNEY

Charles Pierre Mathé, San Francisco, states that the modern management of kidney stone includes many prophylactic measures; viz., early nephrectomy for destructive calculus pyonephrosis which might act as a focus for stone formation in its healthy fellow, the clearing up of foci in other parts of the body, the elimination of predisposing lesions consisting of stasis in the upper and lower urinary tract, the eradication of renal infection, and the correction of faulty metabolism with a diet based on a chemical analysis of the recovered stone. Obstructive stones cause backpressure, resulting in certain pathologic lesions; viz., hydronephrosis, suppurative nephritis, abscess formation, perinephric abscess and spontaneous rupture of the kidney. Nonobstructive stones are a source of continual irritation to the kidney, lowering its resistance and making it more susceptible to tumor formation and to infection. Early removal of nonobstructive stones as well as the obstructive type conserves renal tissue and lengthens life. The so-called nonsurgical, coral-shaped, silent, nonobstructing stone, in which fragments break off, pass into the pelvis and ureter, threatening obstruction, should be removed at once. Recurrence of stone occurred in 20 per cent of seventy-four cases treated. As all predisposing lesions such as stasis, renal infection and foci of infection elsewhere were systematically corrected, it might be deduced that recurrence was due to faulty metabolism or to the leaving of fragments at the time of operation. Recurrence after operation (19.7 per cent) can be further reduced by the employment of X-rays at the time of the intervention and by the intelligent selection of the proper type of operation based on the position and character of the stone. Nephropyelotomy assures a more thorough removal of branched pelvic stones and stones in the calices.—Journal A. M. A.

WHAT IF THE ANTIVISECTOR HAD HIS WAY?

Dr. L. R. Thompson of the U. S. Public Health Service, Washington, told members of the House Appropriations Committee that approximately $17,278.00 will be needed for purchasing laboratory animals for the National Institute of Health in 1931. Wild rabbits cannot be used, he told the committee, because they are apt to have many different intestinal parasites, as well as tularemia (rabbit disease). Guinea pigs for laboratory purposes cost around $.90 apiece; rabbits, $1.35; white mice, $.17; monkeys, $16.00; chickens, $1.85; pigeons, $.35; white rats, $.50; frogs, $.11; and cats, fifty cents apiece. The establishment of an animal farm where the U. S. Public Health Service can raise and breed its own animals for study was suggested as a wise move by the House Committee on Appropriations.—Science Service.

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CONTENTS

The X-ray Diagnosis of Peptic Ulcer. A. W. Crane, M.D. 487
Medical Treatment of Peptic Ulcer. Ralph C. Brown, M.D. 491
Postoperative Jejunal Ulcer. N. M. Allen, M.D. 496
Pain in Relation to Neurological Diagnosis. Curtis T. Prout, M.D. 498
Modern Trends in Anesthesia. Frank J. Murphy, M.D. 503
The Use of Iodized Oil by the Sanatorium Physician in the Diagnosis of Bronchial Affections. Stuart Pritchard, M.D. 506
Two Unusual Cases of Nerve Injury. E. S. Gurdjian, Ph.D., M.D. 508
Responsibility of County Medical Societies in Legislative Activity. A. H. Whittaker, M.D. 512
An Analysis of Twenty-five Cases of Eclamptic Pregnancies. B. L. Lieberman, B.S., M.D. 517
Psychiatry in Pediatrics. Leo Henry Bartemeier, M.D. 521
Famous Men in Medical History: Benjamin Franklin and the Founding of the Pennsylvania Hospital. Russel L. Malcolm 525
Michigan's Department of Health. C. C. Slemons, M.D. 533
Of General Medical and Surgical Interest 535
Editorials:
Walter Hulme Sawyer 537
Aldred Scott Warthin 539
Policies Defined 540
To Contributors 541
The Great Silent Profession 541
Unemployment and the Medical Profession 542
Vacation 542
Education 543
Deaths 544
General News and Announcements 545
Society Activity 546
Report of Proceedings of Special Meeting of Council of Michigan Medical Society, held at Detroit, May 19, 1931 551
County Societies 572
Woman's Auxiliary 574
The Doctor's Library 575

THE X-RAY DIAGNOSIS OF PEPTIC ULCER

A. W. CRANE, M.D.†
KALAMAZOO, MICHIGAN

There is much in common between ulcer of the stomach and ulcer of the duodenal bulb. It is the same type of lesion on the same type of mucosa, for, notwithstanding anatomical distinctions, the duodenal bulb is embryologically and histologically a part of the stomach. There are no constant symptomatic differences and until the development of X-ray methods no reliable differentiation was possible.

Few of us may realize how recent is the recognition of duodenal ulcer. In looking over a succession of old editions of master books such as Strimpell, Osler and Musser, we may see duodenal ulcer emerge rather suddenly about 1911 from autopsy records to a place on clinical charts. This date corresponds accurately with the development of the X-ray examination of the gastro-intestinal tract by the bismuth method, which, however, could not have made such headway had it not been supported step by step

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by surgical exploration. Where this surgical exploration took place is disclosed by Osler in the edition of 1911 revised by his own hand in which he says: "From gastralgia, dyspepsia, and hyperchlorhydria the diagnosis of the chronic, indurated peptic ulcer is very difficult; in many of those conditions, indeed, surgeons have shown clearly that the symptoms are due to an ulcer. That the brothers Mayo should have operated (to June 1, 1908) on 272 cases of duodenal ulcer (as many almost as have been reported in the whole literature) and that Moynihan should have had to June, 1908, 174 cases, indicates that we physicians have been napping, and that what the modern 'gastroenterologist' needs is a prolonged course of study at such surgical clinics as Rochester (Minnesota) or Leeds. It is not as if there were any possibility of mistake, as these are men whose ways and work are known to all. More particularly is the diagnosis of duodenal ulcer important since its relative frequency has been demonstrated." We may add that by 1920 the records of the Mayo Clinic showed 4,000 cases of duodenal ulcer proven by operation and many more with this diagnosis but not surgically treated.

Gastric ulcer at the same time and by the same methods was placed at last upon a firm diagnostic basis. Gastritis has been brought into focus and gastralgia has faded out of the picture. By a study of living instead of postmortem pathology, the duodenal bulb, or rather that small extremity of the stomach beyond the pylorus, is seen to be the most subject to ulceration of any portion of the alimentary tube from mouth to rectum—and the most nearly immune to cancer. Thus the X-ray in a few years hand in hand with surgical exploration has made greater advances in the diagnosis and treatment of gastric and duodenal ulcer than had been made in all the centuries preceding Roentgen's discovery.

Now that internists and surgeons are so often called upon to read X-ray reports of ulcer cases and correlate them with the rest of the case-records, they may presumably be interested in an explanatory review of the diagnostic signs on film and screen.

Three major signs, any one of which means gastric ulcer, are, the niche, the accessory pocket and the hour-glass. A group of other signs which in combinations indicate gastric ulcer in the absence of a major sign are, the six-hour residue, the incisura, antrum spasm, contractures and peristaltic behavior. The niche or nichen sign means the profile of an ulcer which is filled with barium. It forms a protrusion from the silhouette of the barium-filled stomach projecting into the wall of the stomach which is transparent to the X-ray. It is usually on the lesser curvature or posteriorly located, in which case the body must be rotated until the ulcer is seen in profile. It means a penetrating, not perforating, ulcer. The irritation of such an ulcer not infrequently stimulates an enduring contraction of a narrow band of circular muscle fibers causing a deep narrow fissure in the greater curvature known as an incisura. An incisura may thus point like a finger at a clearly visible niche or at one so small as easily to escape detection. But incisuræ may be the result of reflex causes outside of the stomach and must not be regarded as pathognomonic of ulcer, although always highly suggestive and a sign for investigation.

The accessory pocket forms from the gradual perforation of an ulcer. The barium passes through a channel into a small pocket which in the upright position of the patient will show a fluid level and a little air space above. This is the unequivocal sign of a perforating ulcer.

Organic hour-glass results from cicatricial contractions of old ulcer, from spasm excited by open ulcer and from the filling defects of cancer, benign tumors and syphilis. These may usually be distinguished by X-ray observation, reinforced by clinical and laboratory methods. But reflex spasm may mimic certain forms of the hour-glass stomach with astonishing persistency. Observations on different days may show no change and yet atrophine in sufficient doses may restore the normal gastric outline.

Ulcer at the pylorus must be considered as gastric and may show a niche and bring about antiperistalsis or obstruction due to spasm or stenosis.

For the most part these are signs of chronic ulcer. But ulcer in an acute stage may show a distinctive nichen sign. Gastric and duodenal ulcers are recurrent and ulcer patients frequently describe two or more attacks a year lasting several weeks or months. In the acute stages of these attacks the roentgen signs are commonly well developed. However, acute ulcer may be a shal-

low erosion of the Dieulafoy type without an X-ray sign unless it be a disturbance of the peristaltic pattern. Indeed gastric hemorrhage may come suddenly without preceding signs or symptoms of any description. While always alarming, gastric hemorrhage is not always due to ulcer or cancer and vomited blood is not always gastric. Hepatic cirrhosis and esophageal sources of bleeding must be excluded.

The accessory pocket results from a perforation of the stomach wall so gradual as to allow the formation of plastic exudate and the prevention of an open communication with the peritoneal cavity. With few exceptions they are about the middle of the lesser curvature. But occasionally, near the pylorus, an ulcer, exposed to active antrum peristalsis, may break through with the escape of more or less stomach contents and gas. This, of course, is an acute process attended by pain, abdominal distension, vomiting and collapse. It is always more satisfactory to operate upon a demonstration than upon an analysis of symptoms. In no other X-ray examination is a positive diagnosis more speedy and satisfactory. No barium should be given. The patient is supported in bed for a few seconds, in the sitting position, while a film is exposed during a moment of suspended respiration. A thin layer of gas beneath the right diaphragm means perforation. It is obviously necessary that the trunk of the body be upright at the time of the X-ray exposure. Many patients are not too ill to be sent to the X-ray room on admission to the hospital and can stand behind the fluoroscopic screen. One moment of careful screen inspection may be sufficient. In one of our recent cases, acute intestinal obstruction was suspected because no preceding history of stomach symptoms was obtainable. But the demonstration of gas beneath the diaphragm made farther examination superfluous and the operation revealed a perforating ulcer in the lesser curvature near the pylorus.

The perforation may, of course, be anywhere in the gastro-intestinal tract below the diaphragm but is to be looked for first near the pylorus or just beyond in the bulb, whose walls are thin and less promptly supported by plastic exudates. This is doubtless the reason why in Strimpell's "Practice of Medicine" as late as 1911 duodenal ulcer is mentioned only under the head of Perforating Ulcer of the Duodenum.

The X-ray signs of duodenal ulcer are fewer, more decisive and more easily demonstrated than those of gastric ulcer. Outstanding is the deformity of the bulb, which is indelibly associated with the name of Lewis Gregory Cole. So long as the deformity is constant during different phases of gastric contractions, an analysis of causes is unnecessary for the purposes of diagnosis but when analyzed we find in the bulb, as in the stomach, the niche, the incisura, the accessory pocket and the contracture. The contributory signs are gastric—energetic peristalsis and rapid initial expulsion of stomach contents with perhaps a six-hour gastric residue due to pylorospasm.

Few signs are so nearly pathognomonic as bulbar deformity. Carmen states that in the Mayo Clinic the diagnosis of duodenal ulcer made on this sign alone was proven by operation to be correct in 98 per cent of cases. The 2 per cent of error resulted from deformities due to adhesions, reflex spasm and cancer. As for cancer, Carmen observes naively that "since it was seen but four times in 5,000 operative cases, failure to distinguish it from ulcer may be forgiven." However distinctive bulbar deformity has proven to be, it must be obtained by skill and interpreted by experience. Such an X-ray diagnosis, which may determine months of medical treatment or upon which may rest the decision for operation, should be left, not to a technician, not to the physician or surgeon himself, but to the competent roentgenologist.

Peptic ulcer may be multiple as in the case of double ulcers of the stomach or kissing ulcers of the duodenum. Also both gastric and duodenal ulcer may co-exist. An X-ray report should not be doubted therefore merely because ulcers seem unexpectedly plentiful in some particular case.

Ulcer of the duodenum beyond the bulb is very rare and can be recognized only by the demonstration of contractures and partial obstruction. The behavior of the stomach may distinguish between ulcer and cancer in this locality,—ulcer causing hypermotility and cancer a massive gastric-residue without pyloric obstruction.

Proven or not proven by operation may carry conviction not justified by the facts. In its present stage of development, the

X-ray is often a more delicate and accurate means of demonstrating peptic ulcer than exploratory operation. More than one roentgenologist has been unable to find adequate expression for his feelings when after a careful positive X-ray diagnosis he learns that the surgeon reports, without opening the bulb, that no ulcer was found. Even when the bulb is opened it is only too easy to overlook the small slit-like sulcer which causes such distressing symptoms and produces on the X-ray films such characteristic spasmodic deformities.

Usually autopsies in the aggregate furnish proof beyond which there is no appeal. Duodenal ulcer is a curious exception. In the 10th edition of Osler's Practice (1926) revised by McCrae, this distinguished pathologist and the professor of medicine has added, in the first paragraph under the head of Peptic Ulcer, Gastric and Duodenal, this statement: "Postmortem statistics show a great preponderance of gastric ulcer, but the experience of surgeons has taught us that in a large majority of cases which come to operation the ulcer is outside the pyloric ring."

In consequence of the success of the X-ray demonstration of peptic ulcer and gastric cancer all sorts and conditions of stomach troubles are now referred to the roentgenologist for examination. Symptoms more or less characteristic of ulcer may be recorded and yet the X-ray show no ulcer, no cancer, very often no stomach affection whatever.

The value of negative findings is frequently depreciated by both patient and surgeon. The competence of the roentgenologist or of X-ray methods may sometimes be at stake when the clinical diagnosis of ulcer seems well founded. That no man or method is infallible is commonplace because so true. But the consideration of such negative findings, in the face of positive symptoms, signs and history, opens one of the most interesting chapters in the whole range of diagnosis: viz., that of the symptom-reflex. William J. Mayo has called the stomach the signboard of the abdomen on which are written numerous complaints of other organs. Cheney says no less graphically that the stomach plays "the part of a radio receiving instrument presenting impressions that are produced far away." He as well as other recent authors discusses a long list of diseases capable at times of giving stomach symptoms more or less suggestive of ulcer and devotes a chapter each to Appendix Dyspepsia and Gall-Bladder Dyspepsia.

It is evident in practical work that the X-ray examination of the stomach should include the entire gastro-intestinal tract, not excepting the esophagus. Since the oral administration of tetraiodophenolphthalein has proven successful, it is practicable to include the gall-bladder, the intravenous administration being reserved for confirmation in doubtful cases.

While the X-ray may occasionally be useful in a few other aspects of the differential diagnosis, the rest must now be left to the methods of the internist and the clinical laboratory.

The use of the X-ray in the diagnosis of gastric and duodenal ulcer extended rapidly in surgical practice, due largely to the example of the Mayo Clinic, but recognition has come very slowly in the standard works on Medicine. In the latest and one of the most authoritative, however, we find a full acknowledgment which we will quote as a fair summary of the subject. This is by Cheney in Vol. II of the New Oxford Monograph, edited by Henry A. Christian, of Harvard University.

"Without the evidence which the X-ray supplies, no conclusion is justifiable as to whether ulcer does or does not exist. * * * It substitutes demonstration for inference, and either confirms or disproves the suspicion aroused by history and by gastric analysis. And yet it must be remembered that X-ray reports are not infallible. It is possible for an ulcer to be overlooked, or for one to seem to be present when it really is not. Therefore, while in general the X-ray findings are to be given great weight, they must not be accepted as final proof unless they are considered in connection with all other facts elicited by all other methods of investigation."

MEDICAL TREATMENT OF PEPTIC ULCER*

RALPH C. BROWN, M.D.†
CHICAGO

During the past two decades widely differing opinions have been held by authoritative men regarding the method of treatment of ulcer of the stomach and duodenum, primarily as to whether it should be considered a medical or a surgical disease. Much earnest discussion has resulted, the surgeon being confirmed in his viewpoint by the large number of ulcer patients finally coming to operation after one or many courses of medical treatment; the physician equally impressed by the continuation or recurrence of ulcer symptoms in many patients following operation, as well as the appreciable mortality risk incident to the various types of surgical operations.

As the years have passed and those having a large clinical material in this field have gained a broader experience, there has developed among physicians and surgeons a mutual respect for the functions that each may perform in the relief of the sufferer from this malady, a clear recognition that there are peptic ulcers that can and should be treated successfully by medical measures, as well as a definite group of cases in which the future welfare of the patient may best be safeguarded by good surgery. The able paper read by the chairman of the Section on Surgery, Dr. Lahey, at a recent meeting of the American Medical Association offers striking evidence of the manner in which the medical and surgical viewpoints have converged to a degree where, happily, little difference of opinion now exists. Quoting Dr. Lahey, "Any impartial attitude toward the modern management of gastric and duodenal ulcer at once admits the important fact that peptic ulcers are today no longer primarily surgical. A patient with gastric and duodenal ulcer cannot with propriety be passed on to the surgeon for immediate operation as can the patient with gallstones, appendicitis, hernia, and removable tumors. He must come to surgery as the result of the failure of medical management or because of the demonstration of certain surgical indications."

Consideration of the subject of the treatment of ulcer should be based on the concept that every ulcer with which we are called upon to deal was at one time a simple, more or less superficial defect in the wall of the stomach or duodenum, which in the earlier weeks or months of its life history could have been readily healed by appropriate medical measures. As the British authority Bolton[1] pointed out in discussing the relation of medicine to surgery in the treatment of gastric and duodenal ulcer early this year, if all ulcers were treated efficiently in this early period of their life history there would be left no chronic ulcers or their complications for the surgeon to operate upon. The difficulty lies in the fact that either the lesion is not diagnosed in its early course or if recognized has not been given adequate treatment. Bearing on the first point, it is of interest to note that in a survey I conducted this spring covering the ulcer cases entering the Presbyterian Hospital during the period 1912 to 1927—some 2,000 cases—the average length of time ulcer symptoms had been existent before the patient entered the hospital was 7½ years. Most of these cases had been treated medically in various fashions, for the most part very indifferently. It is easy to visualize the sequence of pathological changes that is apt to occur in the average ulcer persistent or recurrent for any such period of time: in the case of duodenal ulcer the tendency to fixation of the callous base of the ulcer on the pancreas and progressive narrowing of the lumen of the first portion of the duodenum by contracting scar tissue; in gastric ulcer, so frequently situated on the lesser curvature, similar involvement of the adjacent organs—liver or pancreas—the development of a thick callous base with obliteration of the blood supply, thus facilitating extension of the ulcerated surface into the chronic saddleback type of ulcer with its end-stage, hour-glass deformity of the stomach.

It is apparent that a definite responsibility rests upon us in respect to the diagnosis and effective treatment of this disease in its earlier periods. The diagnosis is by no means always a simple matter. The dyspep-

*Read before a joint meeting of the Medical and Surgical Section, Michigan State Medical Society, Benton Harbor, September 16, 1930.

†Dr. Brown is a graduate of Rush Medical College, 1904. He is attending physician at the Presbyterian Hospital, Chicago, and clinical professor of medicine, Rush Medical College.

tic group is a large one and painstaking work is necessary to differentiate the cases of actual structural disease of the stomach from the functional disorders of stomach and bowel that so often more or less closely simulate peptic ulcer. Careful analysis of the distress picture is of the greatest importance in this respect, for the pain or discomfort of ulcer results from the irritant effect of free hydrochloric acid upon the surface of the ulcer; hence ulcer pain occurs with a definite and typical time-relationship to food taking and is invariably relieved by acid-neutralizing agents such as protein foods, alkalies and by emptying the stomach. In a careful abstracting of 1,224 case histories of ulcer I found a typical time-relationship to food-taking recorded in 1,143 histories, the pain or distress appearing

1 to 3	hours	P.	C.	in	20%
2 to 3	"	"	"	"	48%
3 to 4	"	"	"	"	32%

Thus in 80% of this large series of ulcer of all types the epigastric distress appeared between 2 and 4 hours after food taking.

Sixty-six per cent described their subjective sensation of discomfort as either gnawing or burning, and almost without exception the distress was sharply localized, usually to a fingerpoint. Rarely does ulcer produce a diffuse abdominal discomfort. I purposely avoid using the word "pain" because so large a proportion of ulcer sufferers have no actual pain. This should be strongly emphasized, for unquestionably there is a general impression that ulcer of the stomach and duodenum is a painful lesion. Often it it is, but with equal frequency the subjective symptom is described as a discomfort rather than an actual pain. In the series of 1,224 cases referred to, 49 per cent described an epigastric *distress* or *discomfort* and 51 per cent some type of definite *pain,* chiefly gnawing, burning or aching.

The old conception of hyperchlorhydria fortunately is passing out of existence. We now know that the patient who for weeks or months has frequently had epigastric distress, well localized and appearing 2 to 4 hours after eating, with normal or higher than normal acid values in the gastric content, probably has an ulcer and this probability may be considered almost a certainty if there is also a definite point of localized tenderness to be found upon physical examination. In such cases, should an expert X-ray examination fail to reveal roentgenologic evidence of ulcer, the patient should be instructed to eat coarse foods for a week or two and test any resulting distress with calcium carbonate, bicarbonate of soda or food. If relief is invariable and complete a diagnosis of probable ulcer may be made.

PRINCIPLES GOVERNING MEDICAL TREATMENT

Fifteen years have passed since Sippy published his paper on the treatment of peptic ulcer. Today everyone is in agreement that the ideal condition to bring about in the stomach of an ulcer-bearing patient is one in which the ulcer surface is subjected to the least possible degree of corrosion by hydrochloric acid. Diets are arranged having a maximum number of acid combining units (milk and eggs), fats in the form of cream, butter and olive oil are given to depress HCl secretion with atropine as an adjuvant and the known stimulants to HCl secretion are rigorously excluded. But these measures are not sufficient to completely neutralize the gastric acidity from morning until bedtime, hence the use of various alkaline neutralizing agents. An essential element in the Sippy method is the determination in the individual ulcer case of the precise amount of such alkali needed to keep the stomach content acid-free. But in the actual carrying out of medical treatment for ulcer, both in this country and in Europe, the tendency is to still continue to use alkalies sparingly, too sparingly to realize the ideal of complete neutralization of free HCl. It would seem proper to inquire why this viewpoint exists. It seems to me there are three chief reasons: First, the relative ease with which ulcer symptoms may be temporarily allayed by a less rigid form of management. Second, unwillingness to subject the patient to the inconvenience of following a somewhat exacting regime. Third, fear of the danger of causing toxic symptoms by the use of considerable doses of alkalies. The first and second objections deserve scant discussion. One does not hesitate to lay down rigorous measures when it is a question of saving the life of a severe diabetic and there are few intelligent ulcer patients who fail to carry out a painstaking form of treatment if they are told why it is well for them to do so. The third reason is perhaps more

valid. Certain individuals do not tolerate continued large amounts of alkalies well, any lowering of the renal excretion function is a handicap: old people do not react to alkalies as well as the young, but even in young individuals with sound kidneys one occasionally sees a curious and as yet unexplained idiosyncrasy, with tendency to develop, under moderate doses of alkalies, headache, anorexia, nausea, polyuria, thirst, great irritability and possibly a delirium. I wish to clearly point out, however, that such cases are the great exception and that the vast majority of ulcer patients may safely be given amounts of alkalies sufficient to effect neutralization of free HCl in the stomach from morning until evening, thus maintaining an ideal status for the healing of ulcer.

DETAILS OF TREATMENT

I shall not tax your patience with details of the medical treatment of uncomplicated gastric and duodenal ulcer which are familiar to you, but shall refer rather to certain types that are more difficult to heal, having in mind particularly outlet ulcer associated with pyloric obstruction, very large and deeply-penetrating gastric ulcer, and ulcer with hemorrhage.

The tendency of ulcer situated at or near the pylorus and in the duodenum to cause scar tissue stenosis is well known. Less generally recognized, however, is the fact that pyloric obstruction often results from spasm and inflammatory swelling, factors which can readily be eliminated by medical treatment. Pyloric obstruction in some degree should always be suspected when the patient gives a history of pain awakening him from sleep during the night hours. Relative frequency of this complication is strikingly revealed by the figures obtained in the survey to which I have already referred, 425, or 34 per cent, of our cases having given a history of night pain. Failure to recognize and properly manage the resulting handicap to the motor function of the stomach is responsible for a great many failures in medical treatment. Management during the day and evening may be accurate to a degree, but if the stomach is unable to empty itself until the early hours of the morning the continued secretion of highly acid gastric juice during the night will inevitably tear down such delicate new granulation tissue as may have formed. The diagnosis of obstruction is easily made by emptying the stomach with a tube at an arbitrary time (usually 7 or 10 hours after the taking of a generous meal), by cautiously inflating the stomach (using bicarbonate of soda and tartaric acid) to stimulate visible peristaltic waves, checking these findings with fluoroscopic evidence of canalization of the lumen at the site of the ulcer associated with increased number and depth of gastric peristaltic waves. Many patients will tolerate a marked degree of pyloric obstruction without vomiting. As a rule acid values run much higher than in non-obstructive ulcer.

In treating an ulcer with pyloric obstruction the objective is two-fold: to neutralize free HCl in the gastric content from morning until bedtime and to insure an empty stomach during the night hours. The latter indication requires that the stomach be emptied by means of the tube at bedtime and for a few nights an aspiration at midnight should be ordered to determine the degree of any existing continued hypersecretion. In certain cases of long-standing high-grade obstruction the gastric glands secrete in a stomach free from food enormous amounts of highly acid gastric juice. If more than the normal 30 c.c. to 50 c.c. of fasting stomach secretion is found, the continued secretion must be controlled by aspirations at midnight and by giving alkalies at two-hourly intervals during the night. Rarely is it necessary to continue such measures during the night hours longer than a week, as the continued secretion usually rapidly disappears. Spasm and inflammatory swelling, frequent causes of obstruction, will disappear in the course of two or three weeks of effective treatment. Whatever degree of obstruction then remains may be assumed to be due to scar tissue and if there exists an appreciable delay in the emptying time of the stomach the patient should be referred to the surgeon. The case then goes to operation much better prepared than if operated upon without such a preliminary course of medical treatment, since inflammation has largely subsided, continued secretion and dehydration no longer exist and healing of the ulcer is under way. Gatewood recently reported a mortality rate of 1.6 per cent in the gastroenterostomies done at the Presbyterian Hospital over a period of 10 years and emphasized the importance of accurate medical

treatment prior to and subsequent to operation in securing this very low mortality rate.

As physicians we must possess a technic for healing ulcer associated with marked degrees of pyloric obstruction for the important reason that the patient may be aged, may have a serious heart lesion or for other reasons may be a poor surgical risk. The ulcer can almost invariably be healed by sufficiently long-continued careful management and an excellent state of health maintained thereafter throughout life by the simple expedient of having the patient empty the stomach with the tube at bedtime each night. Moreover, the effectiveness of medical measures in relieving pyloric obstruction due to pylorospasm and inflammatory edema is shown by the interesting fact disclosed by Dr. Lahey in his address that of 66 patients entering his clinic with pyloric obstruction but 21 have required surgery.

Until very recently there has been a general tendency to look askance at non-operative treatment of gastric ulcer. The lesion has acquired a sinister reputation as a forestage of cancer. Many have held the opinion that for this reason every gastric ulcer should be excised. What are the facts? The great weight of evidence indicates that gastric ulcer seldom undergoes cancerous change. Early this year, Luff reported in the British Medical Journal the results of operation for gastric ulcer in 645 patients. One of the lines of inquiry followed was the question of incidence of cancer in this large series of gastric ulcer. After-histories were obtainable in 406 cases; in 85 per cent of these 406 patients final report was made from 4 to 9 years after gastric ulcer was proven to exist at operation and the reports showed not a single authenticated case of carcinoma developing from these gastric ulcers. I have reports on 77 cases of gastric ulcers medically treated at the Presbyterian Hospital prior to 1928. Only one of these cases died from cancer of the stomach and even in that case post-mortem examination showed the scar of a healed ulcer in a region on the lesser curvature wholly apart from the carcinoma. Surely such data should allay fear of caring for gastric ulcers by medical measures.

Certain large deeply-penetrating lesser curvature ulcers are accompanied by a continued night secretion so persistent as to require special measures. It is not desirable to use alkalies frequently during the night hours as well as by day for longer than a few days, hence in dealing with an obstinate continued secretion recourse may be had to certain variations in treatment. One such plan is based on the fact that milk will neutralize approximately an equal volume of gastric juice. Thus one may obtain reasonably complete acid control by using 2 ounces of half milk and half cream every half hour during the day and evening, reserving the use of alkalies for the night period in two-hourly doses. This obviates any danger of alkalosis. Another effective method to pursue is the introduction of two duodenal tubes, one with tip in the duodenum, the other with tip in the stomach. Through the first tube all nutriment is given; through the second tube any abnormal accumulation of gastric juice may be removed by hourly aspiration. Either of the above procedures may be used for a week or two to bring a stubborn continued secretion under control.

The treatment of ulcer should be carried out in the simplest fashion by means of which the raw surface may be protected from contact with free hydrochloric acid. Guided by this basic principle one need not be bound by rigid formulæ but may use various means for obtaining the same desirable result, *i.e.*, cessation of corrosion by acid gastric juice. There are few disease conditions in which painstaking attention to details of management will be so frequently rewarded by success.

HEMORRHAGE

Massive hemorrhage occurred at some time during the life history of 24 per cent of the gastric and duodenal ulcers in the Presbyterian Hospital series. It is the most common serious complication of ulcer. The most effective emergency measure to apply in case of life-threatening active hemorrhage is lavage of the stomach with ice-cold water, introducing an ordinary stomach tube with tip just within the stomach (17 to 18 inches from incisor teeth) and aspirating with a large rubber bulb of good suction power. Flushing of the stomach with ice water should be continued until the water returns relatively free from blood. Before withdrawing the tube one fluid ounce of 1-1,000 adrenalin solution is administered through the tube. Blood transfusion should be done as soon as possible if the blood loss has been

great, absolute rest enforced, ice kept constantly on the epigastrium and morphia given hypodermically at stated intervals. If the history suggests ulcer with pyloric obstruction, hourly feedings of milk and cream and neutralizing powders should be ordered to prevent digestion of the blood clot by a probable continued secretion. Otherwise all food may be withheld for two or three days. Repeated blood transfusions may be necessary in certain desperate cases, but few lives need be lost from hemorrhage if the patient is seen before too grave a degree of exsanguination has occurred.

Massive hemorrhage from peptic ulcer occurring in the later years of life, especially in the sixth and seventh decades, or in younger individuals with advanced arterial wall sclerosis is always a grave accident. Hemorrhage from an artery, the wall of which is rigid from calcareous deposits, may be impossible to control. In the aged, even after the cessation of hemorrhage, death is much more likely to occur from a degree of anemia which a younger individual might well survive.

INDICATIONS FOR OPERATION

I have already commented upon the existing excellent collaboration of internists and surgeons in the treatment of peptic ulcer. It is now generally recognized that the ulcer sufferer should be sent to the operating table only after an intelligent effort has been made to cure the disease by medical means. What are the criteria by which one selects cases for operation? By far the largest group of cases referred to surgery from my service is the cicatricial pyloric obstruction group. These cases are operated upon after periods of medical treatment varying from a few weeks to a few months. They come to operation completely symptom-free and as a rule the ulcer is found to be entirely healed. Operation is advised and performed in these cases to relieve a mechanical interference with the normal physiology of the stomach which, if unrelieved, is very likely to lead to recurrence of the ulcer. The scar tissue of a healed duodenal ulcer is truly an area of lessened resistance to digestion by gastric juice and certainly it tends to break down when, as in the obstructive cases, it is exposed to a flow of highly acid gastric content from breakfast time until far into the night hours.

Another type of case requiring surgery is the duodenal ulcer with obstruction which responds well to medical treatment but tends to repeatedly recur, often with hemorrhage, some months after medical treatment has been stopped. These are usually very old chronic ulcers based on the pancreas and with poor blood supply. The ulcer can be healed by painstaking treatment, but the scar tissue has too little resistance to digestion to remain intact. The third group is the gastric ulcer which either fails to heal completely or recurs after good management. Here again the surgeon finds a thick callous base adherent to liver or pancreas with poor nutrition, analogous in its resistance to healing to chronic varicose ulcer of the leg.

The problem of ulcer treatment has a very definite economic aspect which necessarily determines the choice of management as between medicine and surgery in a certain percentage of patients. Non-coöperative, unintelligent individuals or the laboring man employed in some form of work incompatible with carrying out an accurate medical regime should be operated upon.

RESULTS OF MEDICAL TREATMENT

I reported, at the recent meeting of the American Medical Association, statistics as to the results of medical treatment in 1,130 of the Presbyterian Hospital cases from whom I have reports, 2½ to 18 years having elapsed since treatment. The status of this group this spring as determined by questionnaire and personal interview was as follows: Cured 49.5%, greatly improved 16.7%; or a total of 66% in which a good medical result was obtained. An additional 10% were moderately improved and 20% failed to obtain a good result, two-thirds of the patients in this group having had subsequent operation. It must be noted, however, that we were dealing with cases having an average duration of symptoms prior to coming to the hospital of 7½ years. Also very many of the cases included in this poor-result group were entirely well for years after their course of medical treatment and were operated upon years later because of recurrence. The tendency of ulcer to recur constitutes our most difficult problem. It is relatively easy to heal most peptic ulcers. It is impossible to assure a patient that he will have no recurrence. Until we possess more

exact knowledge of the cause of ulcer, the most effective insurance against recurrence is the eradication of all foci of infection and education of the patient, especially the patient with a familial predisposition to ulcer, to a lifetime of careful eating, adequate exercise and sleep and extreme moderation in the use of tobacco and alcohol.

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POSTOPERATIVE JEJUNAL ULCER*

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Complications following the surgical treatment of gastric or duodenal ulcer, where the primary operation was partial gastrectomy or an indirect operation such as gastro-enterostomy are, I think, well recognized. This recurrence of ulcer may occur along the suture line or on the gastric or jejunal side of the anastomosis, sometimes involving the surrounding viscera. The cause of this recurrence is unknown. However, many theories have been advanced, some of which we might mention, as: The use of clamps, unabsorbable suture material, anastomosis being badly placed, mistaken diagnosis such as gastric crisis or hemorrhagic hepatitis, or where no pathology was present, the stroma being too small. Others have stated that in their opinion the cause of these recurrences was the result of some derangement of the sympathetic nervous system, infections from slight perforation at the time of the original operation, the post-operative treatment being too short, the patient not being kept under observation long enough and on the usual diet for a sufficient period of time, the use of alcohol, tobacco, etc.

In a collected group of twenty-one cases, seventeen of which came to operation, on examination at the time of operation, we were unable to determine that any of the above mentioned causes were the true etiological factors in the recurrence.

The use of clamps: We have used clamps for gastro-intestinal anastomosis for many years, and, as far as our observation in this small group of cases is concerned, we were unable to determine that the use of clamps had anything to do with the recurrence; however, devitalizing of tissue by improper application of clamps may be a contributing factor.

Unabsorbable suture material: We were unable to find, either on examination of the specimen removed or at the time of the operation, any unabsorbable suture material, although several cases have been reported where pieces of linen and silk have been removed from the ulcer crater, apparently absorbable sutures or catgut having been used in all cases at the time of the primary operation.

The position of the anastomosis or the size of stoma were not thought to be factors, the stoma approximating the normal caliber of the duodenum or larger.

As to the nervous mechanism or derangement of the sympathetic nervous system, we have no data at hand to either verify or deny these statements.

Infections or slight perforation at the time of operation may be a causative factor in a small group of cases, but, when we consider that one case reported in this group had a primary operation eleven years previously, it hardly seems possible that this particular case may be considered as one with this cause for recurrence.

Use of tobacco and alcohol: All our histories stated this fact but each individual was a moderate user of both or a teetotaler.

All our cases were operated originally for the relief of chronic duodenal ulcer. They were cases that were under observation for a long period of time, some as long as three years, one individual in this group having spent some eight months out of one year in different institutions undergoing either medical or surgical treatment for ulcer.

Bower, Warthin and several other au-

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thorities have mentioned the possibility of the constitutional make-up of certain individuals as the causative factor of the original duodenal ulcer and possibly the reason for the recurrence.

CASE HISTORIES

At this point it might be well to cite one family. The father and five sons came under our observation, the father and four sons having had an operation for duodenal ulcer, one son being under medical treatment at the present time for this disease. Of the five operated, the father died of perforated duodenal ulcer, the eldest son died after six surgical attempts to eradicate the disease, the second son is reasonably comfortable after two surgical attempts and the other two sons might be classified as reasonably good results. Both the latter cases have been operated for three and four years respectively. The father was a man of seventy years of age with an intermittent obstructing duodenal ulcer for several years, mild diabetes, and hypertension, and double cataracts successfully operated five years ago. He came under our observation with acute perforation. His former attacks of obstruction were treated by rest in bed, and evacuation of the stomach at frequent intervals. Under such treatment the edema and the obstruction subsided and the stomach emptied in the normal time. Early one morning he was seized with very sharp pain in the right upper quadrant, which was diagnosed by his family physician at the time as a gall-stone colic. Later on the same day, the pain became more severe and the patient was admitted to the hospital with the diagnosis of perforated duodenal ulcer and immediately operated. He died twenty-four hours after operation with what was thought to be some cerebral insult.

The oldest son, a man of forty-five years, first had an emergency operation for perforated duodenal ulcer, later a posterior gastro-enterostomy for bleeding duodenal ulcer. Sixteen months later he was operated for marginal ulcer, seven months later gastric resection for recurrence of duodenal ulcer, eleven weeks later excision of a marginal ulcer at the point of resection, and seven weeks later was admitted to the hospital as an emergency because of a perforation.

The next son, a man of forty-one years of age, had a posterior gastro-enterostomy for duodenal ulcer; gastric resection for marginal ulcer, with a reasonably good result. The other two sons submitted to surgical treatment, and, having been operated now for a period of three years, may be classified as fair results.

In citing this particular ulcer group in one family, I think it demonstrates very well the possibility of constitutional ability present in some families to form both duodenal ulcers and recurrences. This particular group, all having had prolonged medical treatment, being submitted to all the types of surgical treatment, two members finally succumbed to perforations.

SYMPTOMS

The symptoms of marginal or jejunal ulcer may be mentioned briefly as: Pain in the upper abdomen, more frequently about the mid-portion of the transverse colon. The symptoms are not clear cut. They do not fit in entirely with those of duodenal or gastric ulcer. Many times they require the administration of opiates for relief of pain. The disease incapacitates much more than does the ordinary gastric or duodenal ulcer; there is marked emaciation, loss of weight, secondary anemia of greater or lesser degree and the individual frequently gives a history of prolonged treatment for duodenal ulcer with surgical treatment and operation of gastro-enterostomy or partial gastrectomy.

The patient is usually unable to carry on his usual occupation. He spends a great deal of his time, because of relief from pain, in a reclining posture, sometimes being obliged to remain in bed for several days at a time.

The individual becomes very irritable and is apt to disregard his medical treatment because of the unsatisfactory results so far received and is very apt to indulge in dietary indiscretions, which is entirely detrimental to his disease. This is a reasonable picture of the ordinary individual with marginal ulcer.

TREATMENT

As to the type of treatment for this type of ulcer, it might be interesting to quote from an article in a British Medical Journal of recent date; 1,500 cases of gastro-enterostomy were reviewed, operations performed by some seventy-eight different surgeons, who tabulated their results after seven years of observation as follows: Gastro-jejunal ulcers occurred in 2.7% of the cases, hemorrhage occurred in 2.4% of the group, and 90% of the cases were classified as having good results. This demonstrates, I think, in a large series of cases, that possibly the conservative treatment for lesions of the duodenum is not to be considered lightly. Posterior gastro-enterostomy with or without excision for the treatment of lesions of the duodenum with 90% good results, I think gives as high a percentage of cures as are found in any other branch of surgery. I do not think that the operation should be discarded and substituted by a surgical procedure carrying a higher mortality rate, such as partial gastrectomy or subtotal gastrectomy for the cure of sometimes an intrinsic lesion of the duodenum, when partial gastrectomy does not protect against marginal ulcer. Although the incident of gastro-jejunal ulcer can be greatly reduced by careful technic at the time of primary gastro-

enterostomy, it cannot be wholly limited. However, a warning of the possibility of its recurrence will be given sometimes by the amount of free acid as determined by the test meal. If this is unduly high, it is thought by some authorities that the anastomosis should be placed nearer the cardia than usual and the after medical treatment should be more detailed and prolonged.

In our group of cases, no patient was reported who had not had at least two operations for the surgical cure of ulcer. As stated before, one had six operations, another individual four, who also eventually died of perforation, and the last individual in this group three operations. The treatment we have instituted in all of our cases where the primary operation is gastro-enterostomy and the pylorus is patent, is to disconnect the gastro-enterostomy, close the jejunum and stomach, and allow the stomach to empty in its natural way. If there is some stenosis of the pylorus, one of the well known pyloroplasties can be done. If the primary operation has been partial gastrectomy, excision of the ulcer-bearing area and re-establishment of the anastomosis can be resorted to.

CONCLUSIONS

We hardly think it justifiable, in view of our present knowledge of the cause of duodenal and jejunal ulcer, to sacrifice one-half or two-thirds of the stomach for the surgical cure of duodenal ulcer. If the primary operation has been an indirect one such as a gastro-enterostomy, the surgical treatment of the jejunal ulcer is considerably minimized. On the other hand if the recurrence comes following any of the well known gastric resections, we cannot operate directly on this type without accepting a higher mortality rate than with an indirect operation, with no assurance that the condition will not again recur.

We have been in the habit of treating our bad surgical risks, those with marked emaciation, secondary anemia, etc., with primary blood transfusions, and glucose and saline intravenously, to prepare them as well as possible. At the time of operation, as described by Balfour, a small catheter is inserted in the jejunum below the anastomosis so that nutritive solutions can be administered at will and the stomach and anastomosis put absolutely at rest.

PAIN IN RELATION TO NEUROLOGICAL DIAGNOSIS*

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It is often stated that neurologic diseases are rarely encountered in general practice, but I quote a member of a well known clinic in stating that a statistical analysis revealed that out of sixty thousand general cases seen in one year, ten per cent were referred to neurology for some problem requiring neurological investigation, and pain is one of the most common neurological complaints.

While there are many varieties of pain, we shall discuss only those which are most usual and which are closely related to neurology. One of the most common sites of pain is the head, yet with all its frequency little is known of its etiology or of the mechanism of its production. In briefly reviewing the nerve distribution to the dura mater, we find that the anterior portion is supplied by the meningeal nerve, arising from the second or maxillary division of the trigeminal. The anterior fossa is also partly innervated by the anterior and the posterior ethmoidal branches of the ophthalmic division of the fifth nerve. The tentorial nerves also arise from the ophthalmic division and supply the tentorium cerebelli. The dura, covering the middle portion of the cranial vault, as well as the middle fossa, is supplied by the recurrent branch of the third, or mandibular division of the fifth nerve. The dura of the posterior fossa is supplied not only by the tentorial nerves, but also by the meningeal or recurrent branch of the vagus, and some may also come from the sympathetic and hypoglossal as well.

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Headaches may be due to a wide variety of etiological factors, and for lack of a better way of dividing or grouping them we may classify them as follows:

I. Those of Organic Origin.

A. *In brain disease.*

1. *Cerebral tumor.* The headache is deep, bursting in type and is characteristically worse in the early morning, often waking the sufferer from sleep. It is usually progressive.
2. *Cerebral abscess.* The headache is similar in type to that of tumor, but often is not as severe, and is accompanied by fever.
3. *Meningitis or encephalitis.* The pain is intermittent in type, becoming persistent and severe. While it is localized at first it later generalizes and again has a tendency to localize, usually to the occipital or nuchal regions.
4. *Leutic meningitis.* In this disease the headache is very severe, and it is often the sole early symptom. It is aggravated by mental or bodily exertion, and, like other leutic pains, displays nocturnal exacerbations. It is often occipital or cervical in location.
5. *Cerebral arteriosclerosis with calcification.* With this the headache manifests itself mainly as a sense of oppression, localized to the forehead and is of obstinate character, particularly upon severe exertion. It is associated with an obstinate vertigo, frequently with a loss of intellectual capacity, an appearance of depression, and transient paresthesias.
6. *Epilepsy.* With this the headache appears as a dull, diffuse, transient pain, not uncommonly as an aura. It may resemble migraine.
7. *Traumatic.*
   a. From fracture with direct pressure on the dura, with resultant localized severe headache.
   b. From later formation of adhesions, with also circumscribed severe pain at the seat of the lesion.
   c. Concussion, with diffuse, intense headache, which may be due to damage to the vasomotor center in the medulla, or to possible centers scattered throughout the cortex, regulating the caliber of the vessels.
8. *Multiple sclerosis.* The headache usually appears in the beginning, and again late in the disease. It is usually referred to the eyes, associated with vertigo, with scotoma, and often with diminution of visual acuity, leading to a diagnosis of retrobulbar neuritis.
9. *The headache associated with cervical cord tumor* is due to irritation of the upper cervical nerve and is occipital in location. It may be increased by flexing the head.
10. *Spinal puncture.* This type is included here on the basis that it is a form of trauma. It is usually a severe, throbbing headache, sometimes accompanied by vertigo and nausea with occasional vomiting. It is usually occipital, but may be frontal at times. It is more severe when the patient assumes an erect posture, and is relieved when he is in the prone position.

B. *From diseases of special sense.*

1. *Eyes.*
   a. With eye strain. A dull headache in the forehead and eyes may appear, due to a cramplike, protracted muscular spasm. In seeking to overcome the spasm the sensory nerve endings become irritated.
   b. Inflammatory affections of the eyes, in which the

headache is usually frontal.

2. *Nose, sinuses, and teeth.* The headaches associated with these areas are due to the irritation of the fifth nerve which supplies, as we have already noted, both these areas and the dura. Localized pain in the upper, inner corner of the orbit, or over the eyebrows, usually denotes disease of the anterior part of the nasal cavity, or of the frontal or ethmoidal sinuses. Pain deeper in the head causes one to consider the posterior part of the nasal cavity, or the sphenoidal sinus. Pain in the cheek, or teeth, extending to the nose, points to disease of the antrum or floor of the nose.
3. *Ear.* Acute otitis media. This is accompanied by intense headache, which radiates from the affected area all over the head, and is of a throbbing, pulsating character.
4. *Gastrointestinal tract.*
   a. Fasting, which results in the well-known, dull, generalized throbbing headache.
   b. Hyperacidity, with a headache similar to that seen in neurasthenia.
   c. Constipation. Varying from a heavy, dull ache to a diffuse, severe headache. This is probably due to toxic matters irritating the dural nerves. Perhaps a passive hyperemia may result from straining at stool.
5. *Kidneys.* The two conditions in which nephritic headaches are prone to occur, are chronic glomerulonephritis and, secondly, nephritis associated with hypertension. Here the headache may vary from severe frontal pain or nuchal pain to a sense of oppression. Increase of headache associated with kidney damage is often looked upon as a warning of impending uremia. Here also the pain is due to toxic substances, and in some instances to circulatory disturbances.

II. Special Types or Independent Forms.

A. *Migraine.* This appears either as a hemicrania, or bilaterally, and is usually frontal, over the eyes, temples, or the root of the nose. It may go to the eyeballs. The pain is dull, very severe and sometimes of bursting character. There is frequently a hyperalgesia of the scalp. The onset is usually in the morning, with a tendency to cease entirely after the fiftieth year. There are usually prodromal symptoms, and at the height of the pain there is often vomiting. The cause is unknown, although many theories have been advanced.

B. *Neurasthenic headache,* which results from over-exertion or mental exhaustion. This often appears only as an oppression or a sense of heaviness and is usually located behind the forehead, downward into the eyes and the root of the nose, and less frequently in the temples. There is sometimes a complaint of a hoop or band sensation, extending around the head, over the temples to the occiput. Sometimes the pain may be of a boring character, or in the form of various stabbings in one place or another. Paresthesias often accompany these headaches and the complaint may persist from months to years, with no tendency to periodicity.

C. *Nodular or "rheumatic" headache.* This usually appears in women of middle or advanced age, who have been free from headache in their youth and childhood, thus distinguishing it from migraine. The pain is persistent, severe, extremely disabling and

involves the whole head. It nearly always begins in the occiput or nape of the neck, and frequently radiates toward the back and shoulders. It does not cease at night and is not associated with vomiting. There is usually a history of exacerbations after exposure. The presence of nodules the size of a millet seed or even a bean, in the subcutaneous tissue, occipital fascia and nape of the neck are said to be characteristic. These are tender and definitely not lymph nodes, because of their irregularity.

III. In General Diseases.

A. *All acute infections.* Here the headaches are usually frontal, but often the entire head may be involved and the pain may be extremely severe. Those diseases particularly noted for the severity of the associated headache are typhoid fever, septicemia, influenza and erysipelas. The pain is due to a direct irritation of the dural nerve endings, with the virus.

B. *Anemia,* in which the headache is usually a sense of oppression.

C. *In diabetes* also the headache usually appears as a sense of oppression.

D. *In pelvic diseases.* There is an intimate relationship between the nasal mucous membranes and the genital organs which makes possible the assumption that many of the associated headaches may be accounted for on this basis.

E. *With endocrine dyscrasias.* These are seen particularly with hypothyroidism, and clear with treatment of the underlying disturbance.

IV. Toxic, as from alcohol, with a severe, dull, generalized headache.

V. Sympathetic. This type of pain will be described under crises.

Here we shall conclude our review of headaches and turn to other somewhat less frequent but nevertheless important pain types.

Neuralgias are common general diagnoses. By definition neuralgia is a paroxysmal attack of pain in the course and cutaneous distribution of a peripheral nerve, or its branches. It is for the most part, an overworked term which is being used less and less. The two best known types of true neuralgia are:

A. *The trifacial neuralgia,* which may involve any one or more of the three branches of the fifth nerve. The sudden paroxysmal and extremely severe pain limited to the distribution of one or more of these branches and usually associated with a trigger zone is well known.

B. *Glossopharangeal neuralgia,* which is characterized by pain of paroxysmal character between the tonsil and the region of the ear, usually brought on by swallowing and often accompanied by a persistent cough. The diagnosis is easily confirmed if the pain is relieved following cocainization of the tonsillar area.

Perhaps mention should be made of the sphenopalatine or Sluder's syndrome, the entity of which is variously questioned and supported. This is essentially a lower-half headache, with persistent aching pain behind the root of the nose, in the cheeks and occiput, radiating down to the shoulders. Relief obtained by cocainization of the sphenopalatine ganglion is considered as diagnostic.

There are various other forms of neuralgia still diagnosed, but more and more the actual conditions which cause the neuralgic symptoms are being discovered.

Neuritis with actual damage to the nerve fibers results not only in pain as one of the most severe manifestations, but is accompanied also by motor manifestations. The pain is sharp, boring or burning in character and always occurs in the course of the nerve or nerves, accompanied by tenderness.

The forms of multiple neuritis from various poisons and disease are the ones most interesting to us. We may get similar neuritic pains from nerve trunk involvement, from such conditions as neuroma, trauma, inflammation, malignancy, glands, aneurysm or a cervical rib.

The various root pains usually begin as a dull ache, gradually increasing, and are re-

ferred to the peripheral distribution of the neurone. They are usually unilateral at first, later bilateral and symmetrical. The area is not usually tender, but flexion of the head tends to aggravate the pain. The pain will often awaken the sufferer at night, and is frequently relieved by exercise. It is not influenced by weather. Changes in the sensory, motor, and reflex findings may be present. Cord tumor, herpes and spondylitis are examples of origins of this type of pain.

Sympathetic pain has been much discussed of late, particularly in its relation to vascular disease. The onset of gastric crises due to inflammation of the sympathetic rami, with its sudden pain, is rather characteristic. The pain is dull or sharp. It may be aching or cramping, squeezing, gripping, burning, or there may be a sensation of numbness over the area. It is paroxysmal, and is usually accompanied by vomiting. The crises may, however, occur in various places, as in the sacral region, laryngeal region or the gastric region. The sympathetic pains of the head are very similar in type.

Pains of central origin may result from certain types of lesions in the spinal cord, medulla, thalmus or possibly in the cortex. The pain appears below the level of the lesion, in the form of burning, shooting or stabbing pain, is poorly described and poorly localized. The pain in syringomyelia or in cord tumors not involving the roots is usually segmental in type. In syringobulbia with irritation of the spinothalamic tracts above, or in cases of vascular disturbance as in a lesion of the posterior inferior cerebellar artery, this severe burning pain may result in the area supplied by the segment irritated. Pain has been noted from lesions of the pons, as in tuberculoma, and may affect the lower parts of the body; thalamic pains associated with sharp, persistent paroxysmal pains, felt in the hemiplegic side of the body, often intolerable and not yielding to treatment, are one of the described features in a lesion of the optic thalmus. Pain as a result of lesions of the cerebral cortex is a disputed entity and we shall not attempt to describe it.

In this report we have given a brief review of the common types of pain which are of neurological importance. They are not uncommonly seen in general practice and often their significance is overlooked; this is particularly true with respect to the root pains. Not every type of pain has been included in this review, but an attempt has been made to bring before you those most commonly encountered, and those which have the greatest significance.

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MODERN TRENDS IN ANESTHESIA*

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In a discussion of modern anesthesia it is well to bear in mind one historical point of importance, *viz.:* Anesthesia was first undertaken to lessen the discomfort and pain suffered by a patient during a surgical operation. Naturally, it was found that with an anesthetized patient more extensive and satisfactory work became possible for the surgeon. Thus anesthesia has increased the extent and the usefulness of surgery.

It must be borne in mind, however, that this indirect benefit to the surgeon is really a by-product of anesthesia, the primary purpose of which is to make the lot of the patient an easier one. When the nervous, apprehensive patient is given a spinal anesthetic for a laparotomy, in the face of his protests that he wishes to be asleep, and when a general anesthetic is in no way contraindicated, it cannot be considered good anesthesia, although the relaxed muscles and quiet field are ideal for the purposes of the surgeon. I do not advocate consulting the patient as to what sort of an anesthetic he shall have, any more than I would advocate asking him what sort of an incision should be made, or what sort of instruments to use, but I do advocate allowing the temperament of the patient, as well as his physical infirmities, to add its weight as a factor in the choice of an anesthetic.

Each patient presents an individual problem. No one method or agent is suitable for all needs, and such will not be the case until the ideal universal anesthetic has been discovered. It is the wise anesthetist who suits the anesthetic to the patient, rather than the one who forces the patient to fit the anesthetic.

All anesthetic agents and methods have their own merits and all have their contraindications, and the modern tendency is to use two or more forms of anesthesia in conjunction, so that use may be made of the more outstanding virtues of each. This method of combined anesthesia also makes it possible to use smaller doses of each agent, and in anesthesia the minimum dose is the desirable one.

In addition to the proper agent and method, another requisite of good anesthesia is the coöperation of surgeon and anesthetist. It may be necessary that the patient have no ether, but that he be well relaxed, and yet a general anesthetic is indicated. In such cases, if the surgeon is willing to use some local infiltration, with a gas anesthetic, the problem is solved. The benefits of harmony among the members of the surgical team accrue to all concerned, including the patient.

If it is necessary to be able to vary the agent and method to suit the case, it follows that it is also necessary to have adequate apparatus and instruments available.

It should be clearly understood that no mechanical appliance can give an anesthetic. To do this requires experience, judgment, skill and resourcefulness, which attributes are not possessed by any form of apparatus. It is highly desirable, however, that the anesthetist, having arrived at a decision as to what he wishes to do, have at his command the best means of carrying out his desires. Anesthetic deaths have resulted from the lack of adequate means of meeting and overcoming emergencies, and, in spite of our best efforts, emergencies do occur.

The cost of complete and up-to-date apparatus should not be considered when dealing with human life. Industry does not hesitate to adopt new machinery when benefits will result therefrom, and neither should medicine. Hospitals are increasing in number and efficiency. The modern hospital looks upon it as good business to install the latest and most complete laundry machinery, cleaning equipment and kitchen utensils. It is equally good business to install modern anesthesia apparatus, aside from the fact that the anesthetist should have such apparatus with which to work, and the patient should have the benefit of its use.

A properly conducted anesthesia consists of more than merely pouring ether on a mask. If this were not the case, anesthesia would present no difficulties, and, regardless

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of the condition of the patient or the surgical procedure to be undertaken, every anesthetic would be uniformly satisfactory to all concerned. It still happens that the patient, for some reason, "didn't come out of the anesthetic." Happily this untoward occurrence is becoming more rare, and the reason is, anesthetics are receiving more attention and are more skilfully given, with better mechanical aids to their administration. Anyone receiving an anesthetic has a right to the best anesthesia procurable, and good anesthetics are not procurable where there is inadequate apparatus.

The modern tendency in all things is toward specialization. Anesthesia has not as yet attracted large numbers of doctors to its ranks, but it has its rewards to offer those who interest themselves in it. Haphazard anesthesia has long been the rule, even in some of the larger centers. Anesthesia was looked upon as a necessary evil, and was turned over to the interne who was too junior to be allowed to do anything else in connection with the operation. Having been neglected by the medical profession, the possibilities of anesthesia have been seen by the nurses, and the majority of anesthetics in this country are now administered by nurses who have received more or less special training.

A discussion of the merits or demerits of the use of these anesthetic technicians is not proposed, but there is no doubt that the nurse who has had training and experience in anesthesia is more reliable than the doctor who has not had such training or experience.

An advance has been made in those hospitals where a department of anesthesia has been formed, and placed under the direction of a doctor who has been specially trained in anesthesia, and who limits his practice to this specialty. It would be well if their example were more widely followed. As more hospitals adopt this system, there will be a demand for more specialists. The result will be a development of the art and science of anesthesia to a higher degree. The fate of the patients will not be left to chance. Unexplained anesthetic deaths will become things of the past, and there will be less guesswork about what is happening to the patient during the time the operation and anesthesia are taking place.

Patients who receive the most perfect anesthesia have the most uneventful recoveries, so that anesthesia will lose much of its terror for the layman when good administrations become the rule. In this regard, it is well to call attention to general anesthesia as used in dentistry. The dentist who attempts to administer a general anesthetic and perform an extraction by himself, is a menace. Scarcely less so is the one who has the help only of an untrained office assistant. The routine procedure in the offices of such men is to asphyxiate the patient, rather than to anesthetize him. I recently came in contact with an exodontist who seemed rather proud of the fact that he had not had a tank of oxygen in his office for the past five years. To administer a good gas anesthetic for a dental operation is among the most difficult of the anesthetist's tasks, and yet this branch of the work is rarely considered by the medical profession.

A most important factor in the consideration of an anesthetic, is control. The anesthetist should at all times be able to vary the depth. He should have access to the patient, so that he may meet emergencies, or, better, prevent them. Control allows the anesthetist to direct the progress of the anesthesia. Lack of control allows the idiosyncrasies of the patient and the exigencies of the occasion to lead the patient, the surgeon and the anesthetist into dangerous and trying emergencies.

Agents and methods which require the administration in one dose of sufficient of the anesthetic to last for the duration of any lengthy surgical procedure, are to be recommended only when specifically indicated, since with their use control is at a minimum. No matter how safe any anesthetic drug may be, the fact that it is sufficiently potent to interfere with the transmission of nerve impulses or to compel a cessation of practically all but the vital functions of the whole body, is indication for the exercise of extreme care with regard to its dosage.

The patient who has had a just sufficient amount of the anesthetic has a far better and less eventful recovery than the one who has been saturated. A combination of anesthetics allows us to use moderate doses of each, and thus makes for increased safety.

It has been pointed out that the routine use of any particular agent or method for all cases is poor anesthetic practice. Similarly it would be poor practice to use a single

agent or method even for all cases where the proposed surgical procedure is substantially the same. Other circumstances vary, and everything must be considered if we are to give the patient the benefit of the best possible anesthesia. As different drugs possess different outstandingly desirable properties, a combination in which the optimum action of each drug is secured would be ideal.

Local infiltrations of novocain produce anesthesia and considerable local relaxation, but do not produce unconsciousness, and the effect does not always last long enough to allow completion of the surgeon's work.

Subarachnoid injection of the anesthetic drug produces perfect anesthesia and relaxation below the level supplied by the affected part of the cord, but it does not produce unconsciousness and cannot be relied upon beyond a period of from 45 to 60 minutes. It may be repeated, but I have yet to see the surgeon who is willing to have his patient turned over and reinjected in the middle of a laparotomy. Spinal anesthesia produces a marked fall in blood pressure, and a great many patients are nauseated, apprehensive and extremely uncomfortable, even though they do not actually feel the manipulations of the operator. The so-called "spinal headaches" which are severe and intractable, follow this method frequently enough to make their occurrence a consideration.

Rectal anesthesia cannot be controlled with sufficient certainty to make it a method of choice. Gwathmey's colonic analgesia for use in obstetrics has a definite value, but it must be noted that it is essentially an analgesia, and not an anesthesia.

Satisfactory intravenous anesthesia is not yet an accomplished fact. Sodium amytal has been used intravenously in many thousands of cases, but those most familiar with its use advocate it as a hypnotic rather than as an anesthetic. In the intravenous method, control is lacking.

Inhalation anesthesia is still the method of choice in a vast number of cases. Skillful administration of the drug used allows very accurate control of the depth of anesthesia, and the unpleasantness and after-effects may be minimized.

The scope of this paper does not include a full discussion of the pharmacology of all the anesthetic drugs, but it would be well to urge the abandonment of the use of ethyl chloride and chloroform, except when very specifically indicated, and then only by one skilled in their administration.

Nitrous oxide is the most pleasant to take of all the inhalation anesthetics. It may be given to practically any patient, provided it is given with sufficient oxygen. There are virtually no pathological conditions which contraindicate its use. Practically, however, it often falls short of the ideal. Nitrous oxide will not produce muscular relaxation. This point must be borne in mind when considering it for use in any given case.

Ethylene produces more muscular relaxation than does nitrous oxide, and less than ether. The principal objection to its use is the fact that it is highly explosive. It has, also, a rather unpleasant odor.

Ether may still be said to be the most reliable anesthetic for the largest number of cases. It is not as toxic as chloroform, is readily available, and produces satisfactory muscular relaxation. Used for induction, it is unpleasant to take, and it is often followed by rather severe nausea and vomiting. This latter effect may be largely controlled by the thoughtful and careful preparation of the patient and by the use of a method which will allow the anesthetist to quickly de-etherize the patient after the operation. Avoidance of saturation during maintenance also prevents nausea.

With the use of any inhalation anesthetic, results depend very largely upon the method of administration and the skill with which it is carried out.

Any discussion of modern anesthesia would be incomplete without at least a mention of carbon dioxide. Whereas this gas is not used for its anesthetic properties, it has come to be regarded as an almost indispensable adjunct to anesthesia. Carbon dioxide is the normal physiological stimulant to respiration. It increases the amount of oxygen carried by the blood, according to some investigators. Anesthesia is deepened, because more thorough aeration of the blood follows the increased respiration. Induction time is shortened in inhalation anesthesia. Recovery is made more rapid. This rapid recovery lessens the incidence and severity of postanesthetic nausea and vomiting. The gas may be accumulated in a rebreathing apparatus, or it may be given from a tank, with the anesthetic. It must, of course, be given directly to have any ef-

fect during induction, or at any time before there has been an accumulation in the rebreather. For this reason it is necessary to have a cylinder of the gas available, either pure or in a mixture with oxygen. Since the needs of patients vary, it is best to have the pure gas so that it may be given in the optimum proportion in each case.

In dealing with the subject of anesthesia as a whole, rather than with any particular drug or method, the purpose of this paper has been, not to announce any new discoveries, but to bring to the attention of a group of surgeons some of the factors which are to be considered in the choice of an anesthetic for any given case. I wish to emphasize the necessity for coöperation between surgeon and anesthetist, and to discourage any tendency toward routine in anesthesia.

THE USE OF IODIZED OIL BY THE SANATORIUM PHYSICIAN IN THE DIAGNOSIS OF BRONCHIAL AFFECTIONS

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In the diagnosis of pulmonary affections the sanatorium physician has many problems to solve. Visualization of the bronchial tree with some opaque substance such as iodized oil, has been a great help, and many cases, which previously were in diagnostic doubt, have been definitely tabulated.

Sicard and Forestier, first employed iodized oil in 1921 as an aid in locating and demonstrating obstruction of the spinal canal and later it was used successfully by the originators in exploring dilatations, fistulous tracts, and cavities of the bronchial tree. Later Sargent, Cottenot, Nigoul-Foussal, Ballon, Archibald, and others became interested in this diagnostic aid.

In 1924, the writer[1] first employed iodized oil in the form of bronchial injections as a diagnostic agent.

The iodized oil (lipiodol) which we have used continuously is a chemical compound of forty per cent iodine and oil of poppy seed described and used by Forestier. The oil and iodine are so closely combined that the ordinary starch test fails to show evidence of free iodine.

Iodized oil is of clear amber color, is neutral in reaction, has a specific gravity of 1.350 and is insoluble in water or alcohol. The iodine may be liberated by the alkaline carbonates of the saliva and intestinal secretions, but is not affected by the gastric acidity. It becomes brown when exposed to the action of light, air, humidity, and high temperature, because of the liberation of iodine, and when found in this condition should not be used. The high iodine content of the compound renders it opaque to the roentgen rays. The value of the oil as a diagnostic agent is due to its resistance to the roentgen ray and to its tolerance by the bronchial mucous membrane. The therapeutic advantages are due to the slow rate of absorption of the contained iodine without harmful effect on the patient. Iodism does not occur unless the oil is swallowed and subjected to the action of the intestinal secretions. The slow liberation of iodine prevents the danger of pulmonary congestion, which sometimes follows the use of iodides.

There are four methods of introducing iodized oil into the bronchial tree: namely, the supraglottic, the transglottic, the subglottic and the bronchoscopic. In the subglottic method a hollow curved needle is passed through the cricothyroid membrane into the trachea, while in the fourth the oil is introduced through the bronchoscope.

The following general principles should be observed in all methods:

1. The use of discolored oil should be avoided.
2. Warm oil should be used, as it flows more freely and lessens the tendency toward cough.
3. Roentgenographic exposures should be made as soon after injection as possible

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and cough should be prevented by any unnecessary movements of the patient.

The sanatorium physician will find the supraglottic method the most satisfactory in the great majority of adult cases on account of the following reasons:

1. The method does not require the services of a trained specialist such as an otolaryngologist, or surgeon, and the technic can readily be acquired by the internist, the general practitioner, or radiologist.
2. The method is less complicated, time-saving, and causes the patient less strain and worry.
3. Little or no inconvenience is experienced by the patient after the injection.
4. In over six years' experience with this method no ill effects have occurred.
5. The method may be employed in the fluoroscopic room, office, or hospital, with less inconvenience to patient and physician.
6. Any part of the bronchial tree may be visualized by this method.

Disadvantages of the supraglottic method:

1. Not very satisfactory when attempted on children.
2. In cases of lung abscess or other pulmonary lesions with destructive changes or cavity formation, the oil does not penetrate by gravitation, as compared with the excellent results obtained by bronchoscopy.

I. *Procedure.*—From 1910 to 1913 the writer used the supraglottic method in administering intratracheal injections of one-half of one per cent menthol dissolved in a hydrocarbon for the purpose of emptying bronchiectatic cavities. The patients were placed in the recumbent position and no anesthesia or laryngeal mirror was used. In 1924, this same method was employed with lipiodol, except that in many cases a local anesthetic was used and the patient was placed in a sitting position. However, it was soon found that the original technic of 1910 was preferable.

It is possible, when a local anesthetic is used in the pharynx or larynx, that some spastic reaction occurs lower in the bronchial tree, on account of the fact that a more extensive and satisfactory visualization appears to occur when no anesthetic is used.

II. *Instruments Required.*—No laryngeal mirror is necessary. The fewer instruments used in the mouth the better. A head mirror is helpful but not essential. In our experience the syringe used should be all metal, 30 c.c., with two rings attached to end of the barrel and one on piston. An all metal flexible cannula with large caliber, almost six inches long, slightly bent at extremity, is most satisfactory. With this type of syringe one has the advantage of heating the oil in the syringe by placing the latter under the hot water tap. Fifteen c.c. of oil will just half fill the syringe, so that the rings are not far apart and easy to manipulate when cannula is held in position. The cannula should not touch any part of tongue or pharynx.

III. *Position of the patient.*—The patient should be placed in a recumbent position on tilting table, lying on the side to be injected. Two pillows are placed under the lower shoulder and three used to elevate the head. This places the patient in a semi-recumbent position. The tongue is protruded and caught in a cheesecloth handkerchief, being held in this position by the patient using the lower hand.

IV. *Technic.*—Use much psychic anesthesia by stating what you intend doing. Explain carefully that no operation is to be performed, no pain caused, and instruct the patient that he or she must refrain from coughing or swallowing. Complete relaxation is necessary and to ascertain if the patient is relaxed note the position of the tongue when it is extended. A high longitudinally arched tongue means tension on the part of the patient and that little or no success will be the result. The back of the tongue must be relaxed and "flattened out" before proceeding with the injection. The slightly bent end of the cannula is placed over the back of the tongue a little towards the side opposite the pillow. The patient is asked to breathe deeply and quickly. The oil is allowed to flow continually. The whole time of "pouring" should not take more than two minutes. The patient is then asked to take a few deep breaths. In this way a more extensive visualization may be obtained. If the middle or upper portions need investigating, level the patient immediately after the injection and tilt the chest and head downwards for about half a minute. The following suggestions may prove helpful:

1. The oil should be warmed, which will facilitate flowing and cause less reflex action.
2. The X-ray should be adjacent.
3. A fluoroscopic study should be made

after stereoscopic films are made, as time is a factor. On fluoroscopic study note if any oil was swallowed. If so, give hot water and soda (emetic). Do not let the oil reach the alkaline intestines.

4. An oblique or lateral chest film should be made in all cases, as the postero-anterior chest stereoscopic study does not show all the involvement in the majority of cases of bronchiectasis. Frequently more extensive dilatations are found by an oblique or lateral study.

Uses.—1. In cases of long-standing bronchitis with little or no expectoration and indefinite etiology.

2. In cases of chronic cough with purulent expectoration and little or no X-ray abnormality.

3. In cases of chronic cough with a previous history of pneumonia or foreign body.

4. In cases of bronchiectasis for the purpose of mapping out affected bronchial dilatations.

Contra-indications.—In 1926[2] the following exceptions to the use of iodized oil in bronchial visualization were suggested by us and now after a much greater experience it is felt that there is nothing to add or omit.

1. Acute respiratory affections such as rhinitis, pharyngitis, bronchitis.

2. In cases of acute or active tuberculosis.

3. Very extensive and advanced pulmonary suppuration, particularly when the patient is extremely weak.

4. Advanced circulatory complications such as angina pectoris, aneurysm, and cardiac decompensation.

5. Recent hemoptysis.

CONCLUSIONS

All methods of visualizing the bronchial tree are worthy of consideration and appreciation. All have their specific advantages. The supraglottic method is perhaps the most uncomplicated, simple, and time-saving, for the sanatorium physician, the general practitioner, and the radiologist to consider.

In cases of differential diagnosis of foreign body, malignancy, and the visualizing of lung abscess, the bronchoscopic method is of much greater value.

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TWO UNUSUAL CASES OF NERVE INJURY

I. BULLET IN MEDIAN NERVE

II. SECTION OF FEMORAL AT OPERATION

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Nerve injuries are common in large industrial centers as well as some of our larger cities where bullet and stab wounds are frequent. In the next few paragraphs, we should like to give the story of two cases of nerve injury which present certain unique aspects. One patient had a median paralysis following a bullet wound of the upper arm, and the other noticed complete paralysis of the anterior thigh muscles after an incision and drainage of an extensive inguinal abscess.

Case 1.—Bullet wound of the upper arm. Bullet shadow of medial aspect of upper third of arm by X-ray. Fracture of lower third of humerus, in good position. Clinically, median nerve paralysis. Operation. Bullet found in the substance of median nerve in upper third of arm, pressing against the musculocutaneous nerve.

C. J. (H-17616). Entered the Receiving Hospital, Detroit, 12/13/30, with a history of bullet wound six weeks previously. He thought that the bullet was still in the upper third of his left arm. At the time of injury he was treated for fracture of the lower end of the humerus. Since then, he had noticed a numbness of the hand in the median distribution, and general weakness of the entire left upper limb.

Regional examination showed the presence of a hard mass about the size of a bullet on the medial aspect of the upper third of the left arm, about 3″ from the axilla. There was also some callous formation at the lower end of the humerus. The movements about the shoulder joint were normal. At the elbow, both flexion and extension movements were weak. In the forearm supination and pronation were definitely impaired. In the hand flexion of fingers was practically absent, particularly in the

thumb and next two fingers. Dorsiflexion at the wrist was present but much weakened. There was marked swelling of the entire hand with slight cyanotic discoloration. Anesthesia was present in the median nerve distribution of the hand. This involved the volar surfaces of the lateral three and one-half fingers as well as the tips of the fingers on the dorsal aspect. X-ray examination showed presence of a metallic fragment in the soft tissues of the upper third of the arm, medially.

A diagnosis of median nerve palsy was made. At the time, it was suggested that the foreign body had either sectioned the median nerve or was pressing against it, and thus caused chronic irritation. Operation was performed December 15, 1930. The accompanying figure shows the operative findings. The bullet, curiously enough, was embedded longitudinally in the body of the median nerve, by splitting it in its central portion. There was also pressure against the musculocutaneous nerve, explaining the weakness in the power of flexion at the elbow and the weakened supination of the forearm. After removal of the bullet, a careful neurolysis was performed.

The post-operative course was uneventful. Much to our surprise, sensation returned to the median distribution of the hand in about three days. The movements of flexion of the fingers were much better within a week. Patient was seen about three months after operation, and at that time there was practically complete return of function in the hand.

It is unusual to conceive that a bullet would actually stop in the substance of a nerve after splitting it. Such cases have been reported (Stookey, '22). When encountering such an instance, it is important to note the extent of damage to the nerve, and to be sure not to injure it any further. The neurolysis should be performed with great care. If there is considerable damage, it may be necessary to separate the damaged portion from the uninjured part of the nerve and suture the former, *leaving the latter alone.*

Case 2.—Inguinal abscess 5 months before admission. Incision and drainage. Numbness on the medial aspect of the thigh and leg, as soon as patient recovered from anesthetic. Complete femoral palsy at the time of examination. Operation. Section of femoral nerve found. Good post-operative recovery.

H. J. (H-14323). Entered the Receiving Hospital on 10/8/30, complaining of weakness in the right thigh, and numbness in the anteromedial aspect of the thigh, and the medial aspect of the leg. He stated that about five months before admission he had an abscess in the right groin which was opened and drained. Since that time, he noticed a numbness in the limb, and his thigh became much smaller. Examination showed several scars on the abdomen, due to previous operations, and a scar over Poupart's ligament, on the right. There was an area of anesthesia in the distribution of the femoral nerve, the anesthesia extending down to the ankle on the medial aspect of the leg. There was tremendous atrophy of the extensors of the knee and the flexors of the hip. The tensor fasciæ latæ muscle contracted. The quadriceps femoris was practically gone. The adductors contracted. The flexors of the knee were in good condition. The gluteal prominences were equal on the two sides and there were no localized atrophies on the posterior aspect of the pelvis. The femoral pulse was present. There was no evidence of anesthesia beyond the distribution of the femoral nerve. The knee jerk on the right side was absent. The Achilles was present. A small ulcer was present on the anterior aspect of the knee, which patient stated, "would not heal."

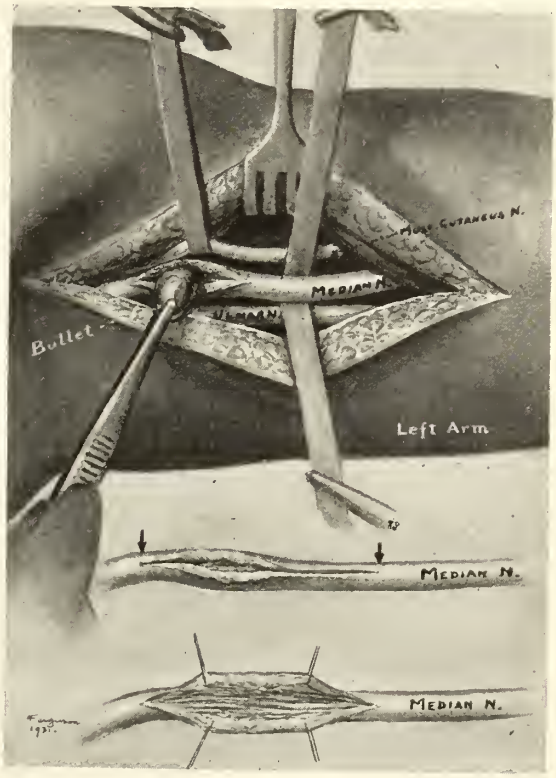

Fig. 1. Bullet in the substance of the median nerve. Also the final result after neurolysis. The bullet was found to press against the musculocutaneous nerve, which explained the weakness of the biceps contraction.

In view of the immediate anesthesia in the leg following operation five months before, the possibility of injury to the femoral nerve, at that time, was carefully considered. The condition had become one of total interruption of impulses through this nerve.

We advised operation in this case because it was thought that in the course of five months the patient should have had at least some sensory return over the femoral distribution. It was thought possible that the nerve was sectioned at the time of operation or that there was much scar tissue formation about the nerve for which a neurolysis was in order. Accordingly, on 10/10/30, patient was operated. An incision was made on the right, about four inches long, along the adductor canal and crossing Poupart's ligament, extending about two inches above it. On reflecting the skin flaps, it was noted that the sartorius muscle was sectioned at the previous operation. The ends of this muscle were separated, to be sutured later. By means of blunt dissection the branches of the femoral nerve were dissected out on the lateral aspect of the femoral artery and the

peripheral stump of the femoral nerve was located. It was found to be severed practically throughout its entire extent from the central portion. An incision was then made into the aponeurosis of the external oblique muscle parallel to Poupart's ligament, after which the latter was incised vertically to expose the neurovascular region. By reflecting the lower end of the peritoneal sac off the posterior abdominal wall, the iliopsoas muscle was exposed, with the overlying femoral nerve and iliac vessels. The central stump of the nerve was found to be laterally displaced with a bulbous enlargement at the end, characteristic of a neuroma. About as much as three-quarters of an inch of the central stump had to be cut away with a Gillette razor in order to obtain normal appearing bundles of nerve tissue. There was only one bundle which extended from the central to the peripheral part of the nerve, and this was saved by dissecting it away. The peripheral end was also shaved off until fairly normal appearing tissue was encountered. When we were about to approximate the peripheral and the central ends, it was noted that a gap was present, about two and one-half inches between the two. In order to bring the ends together, the hip was flexed to about forty-five degrees, and in this position the nerve ends were sutured by means of 00 catgut. Eight interrupted sutures were used. Following this, the fascia of the

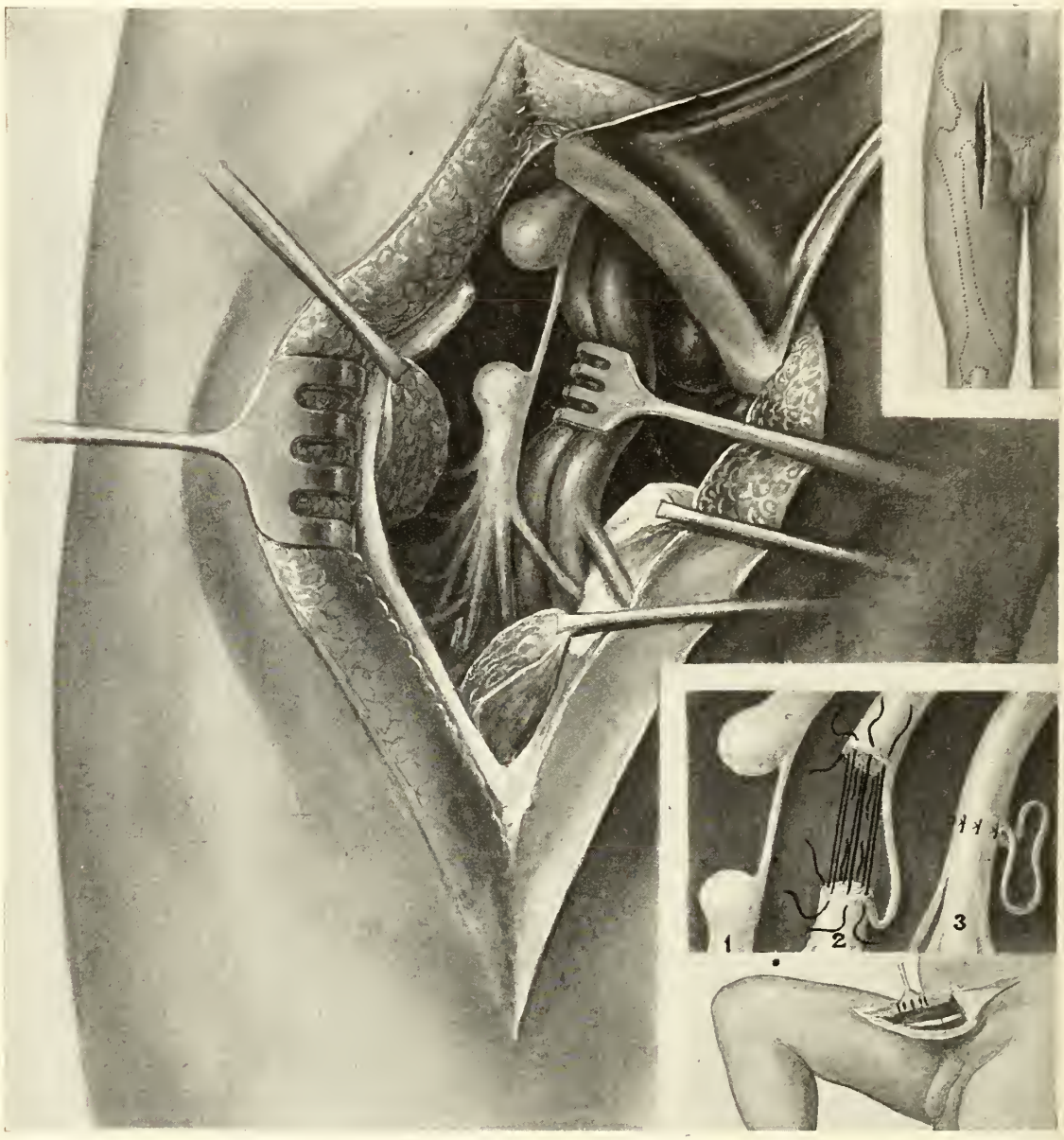

Fig. 2. The operative findings in Case 2 and the operative treatment instituted. The position of the initial incision may be seen in the right upper corner. The large drawing shows the operative findings. The femoral nerve is almost completely severed. This is at the level and just a little above the inguinal ligament. The unsevered portion of the nerve was carefully saved as shown in the right lower corner (upper section). The neuromatous mass at either end was shaved with a Gillette razor until normal appearing bundles obtained. The nerve was sutured in the usual manner after placing the limb in flexion as shown in the lower section of the figure.

external oblique was sutured and the Poupart's ligament repaired. The patient was placed in a body spica to hold the limb in flexion in relation to the trunk. Post-operative course was essentially uneventful.

At the end of three weeks, the cast was removed to be replaced by a new one, and at the time it was noted that sensation had returned to the medial aspect of the right limb. The patient was seen about seven months after operation, at which time he was able to flex the thigh without much difficulty and there was an increase in the circumference of the middle and upper thigh, the measurements amounting to three-quarters of an inch. Whereas, before, patient complained of his knee giving way from under him, he now was able to propel himself without the use of a cane. The ulcer about the patella had completely disappeared. The knee-jerk at this examination was obtained on the right.

A point which should be emphasized and which is well brought out in this case, is the saving of nerve tissue, however small in amount, if it is found to extend from the upper end to the lower, in cases of incomplete section. We think that this was responsible, in this case, for the return of sensation in the distribution of the medial femoral cutaneous and the saphenous nerves.

DISCUSSION AND SUMMARY

Particularly the second case affords much ground for discussion. It is possible that the purulent process actually dissected its way between the vessels and the nerve and pushed the latter toward the skin, for in the normal case it is difficult to conceive an injury to the nerve without accompanying tear of the vessels after an incision along the Poupart's ligament. The fact that the sartorius muscle was found sectioned, and also the fact that a portion of the nerve was still intact, along with the appearance of a disability immediately after operation, favors the assumption the nerve was cut when opening the abscess. Probably circumstances were such that this could not have been avoided. However, we think it is worth while when operating on extremities, to keep in mind the position of certain nerves. More superficial than the femoral are the peroneal nerve, near the head of the fibula, and the ulnar, on the medial aspect of the elbow. Frequently, it may be advisable to dissect out these nerves and thus protect them. Particularly when a second operation is being performed and there is much scar tissue and matting together of structures is it advisable to dissect out the nerve first to prevent injury.

Both cases manifest the importance of saving as much of the uninjured portion of the nerve tissue as possible. Even small bundles, if saved as in the second case, may afford return of some function. In the latter, the saving of the small nerve trunk, we think, was responsible for return of sensation in the distribution of the medial femoral cutaneous and the saphenous nerves. Such uninjured portions of nerve tissue may be easily saved by dissecting them up and down with a very sharp instrument. In secondary sutures, it is essential to remove all neuromatous tissue. This may be done by the method described by Lewis, Stookey and others. With a sharp Gillette razor the neuromatous portion may be sectioned until normal appearing bundles are obtained. Occasionally, large gaps may thus be produced, and in order to afford end-to-end suture it may be necessary to dissect the nerve far out, or flex certain parts, or extend others. It is the consensus of opinion (Stookey, Lee and others) that only end-to-end suture may be expected to result in success.

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RESPONSIBILITY OF COUNTY MEDICAL SOCIETIES IN LEGISLATIVE ACTIVITY*

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To understand properly the need for a general effort in developing and controlling legislation, it is necessary to have a clear understanding of the relation of the Profession and the general public to the various agencies which are concerned with the health of the public. Dr. E. C. Winslow in "Whither Mankind," has traced the history of medicine, pointing out the rapid change in the practice of medicine. He says the Scientific Age is still in its infancy and medicine is no exception to the general rule, both curative and preventive medicine having made rapid strides. The modern phase dates from 1842, when, in England, Edwin Chadwick made a report on the sanitary condition of the laboring population of Great Britain. There was enough truth in Chadwick's conceptions of the relation between filth and disease to make them work. As water supplies were improved and age-long accumulations of filth were cleared away, plagues and pestilences of earlier days, cholera and typhus, gradually disappeared.

In the '80's, following the work of Pasteur, came the golden age of bacteriology. Of the entire group of acute communicable infections, only pneumonia and influenza have remained as still beyond the scope of effective control.

At the beginning of the twentieth century, the third line of attack was initiated, along with the rapid improvement in the teaching in the medical colleges, namely, development of an organized program of popular education and principles of personal hygiene.

The program for control of tuberculosis was successful, and was followed by one to control infant mortality, then venereal disease, mental disease, heart disease—and, recently, cancer.

The specific diseases leading in the cause of death have changed entirely, so today, we are dying of heart disease, cerebral hemorrhage, nephritis and pneumonia. Thus, the successes of earlier campaigns and the chronic nature of the present diseases have resulted in efforts by various branches of the government, national and local, by groups of laymen and by groups of graduates of various schools of healing, to assume a greater and greater control of public health.

STATEMENT OF FUNDAMENTAL PRINCIPLES

As a fundamental principle we must realize that our attitude toward governmental functions must be determined in the light of practical, permanent public benefit and public service. At the same time we are thoroughly convinced that any proposition for the relief of present ills or for the adjustment to present conditions which would modify or interfere with the present and established relationship between the physician and his patient is unsound and impractical.

Any proposal which would lessen or destroy the full privilege or complete freedom of the individual in his choice of his physician is likewise unsound. Furthermore, no proposition which would even incidentally or ultimately result in less efficient medical service or in the deterioration of the standing of the medical profession in its relation to the public, can be countenanced. Therefore excessive restrictions, over-burdensome regulations, state practice of medicine, health insurance, paternalism, in whatever guise, are wrong, should be opposed and must ultimately fail.

Certain obligations have been imposed upon our profession by the state or nation in return for the right to practice medicine. Some of these are not only irksome, but impose an unfair burden. There is, however, no question as to the right of the state to impose reasonable requirements and there is no other tenable position but acquiescence; at the same time the matter is clarified if the burden is properly distributed, and the reciprocal obligation of the public taken into consideration.

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Furthermore to grasp clearly our relationship to the public, it is necessary to have a proper understanding of the governmental agencies controlling practice.

A. The President
- Treasury Department, Public Health Bureau Department
- Department of Agriculture—Bureau of Animal Husbandry
- Bureau of Chemistry
- Bureau of Entomology
- Medical Corps. U. S. Army
- Medical Corps. U. S. Navy
- Department of Commerce, Census Office, Vital Statistics
- Narcotic Bureau

Congress—Health Laws, Licensure, animal experimentation, etc.

Supreme Court—Influence on Medicine through decisions.

The following divisions of government endeavor to better the health of all citizens:

B. State—
1. State Board of Health
2. State University—University Hospital
3. Tuberculosis Hospitals
4. Insane Hospitals
5. Crippled Children's Work

County—
1. Health Units
2. County Clinics
3. County Hospitals
4. County Tuberculosis Institutions
5. Children's Hospital
6. Coroners

City—
1. Public Health Department (Mayor and Council)
2. School Health (Board of Education)
3. City Physician's Office
4. Tuberculosis Work (Department of Health)
5. Cancer Work (Board of Health)
6. Sanitation
7. Medical College (Board of Education)
8. Receiving Hospitals
9. Venereal Clinic (Board of Health)
10. City Hospital Beds in Private Hostals
11. Welfare Department

In addition there are nineteen agencies in each large community supplementing the work of the physician—

Department of Health
- Tbc
- Venereal
- Sanitation
- Immunization
- Public Education

Associations of Physicians and Coöperative Plans
Industrial Corporation Medical Departments
Municipal Hospitals and Clinics
Hospital Clinics
Privately Endowed Clinics
Free Public Hospitals
Educational Institutions (Medical School, Fresh Air Schools, Crippled Children Schools)
Tbc Institutions
Cancer and Heart Clinics
Army and Navy Hospitals (all mariners)
U. S. Veterans Bureau
Orthopedic Clinics
Pre-School Medical Activities
Pre-Natal Clinics
Railroad Hospitals and Medical Departments
Insurance and Liability Companies
Private Clinics (Mayo, Ford)
Pay Clinics

Each of these presents problems which must often be met by legislative activity on the part of the profession, after measuring these agencies with the previously mentioned fundamental principles.

Of all these agencies, the departments of health of the national government, state and city probably require the closest supervision, although these agencies do not create the legislative unrest which medical licensure periodically thrusts upon us. Here again the activities of a group must be judged by the ultimate effect upon the public, and the effect must be measured by principles of procedure.

If, as stated by President Vincent of the Rockefeller Foundation, "food, clothing, posture, sleep, occupation, personal adjustments are becoming concerns of public health," we are led to speculate on the ultimate functions which the state or society may undertake to exercise over individuals.

The primary functions of the state department of health being educational and preventive, as expressed by the Ohio Medical Association, the actual treatment of disease is not a function of public officials nor to be provided from public funds except in the

(a) Institutional care of the wards of the state; delinquent, diseased and defective;
(b) The treatment of the indigent;
(c) The treatment of those whose treatment is directly essential to prevention; and
(d) The inspection, recognition and recommending the correction of common defects of school children, as a primary feature in health education.

And that otherwise in the holding of public clinics under the auspices of public health officials they shall be so conducted that the purpose shall be purely educational and diagnostic.

Analysis of the foregoing develops the principle that official health administration is concerned not only with the prevention of disease and the education of the public but

that such public service is charged with the duty of protecting the public insofar as possible from incompetent and uneducated types of practitioners whose unscientific methods exploit sickness for commercial gain.

Dr. Ray Lyman Wilbur, former president of the American Medical Association, has properly emphasized the fact that the function of public health administration lies in educational efforts, the prevention and control of communicable diseases, the protection of water supplies, adequate sewage disposal, the abatement of nuisances deleterious to health, and information upon the trend of diseases.

As a governmental function, an individual has no right to expect government to be interested in, or assist in treating, a "stomach ache" or any personal affliction. But public health, in its growth, has become an immense, complex organization. In places it has become unwieldy. It has "poured over the sides" and inundated the field of medical practice. Public health is a part of scientific medicine. It is intimately related to preventive and educational medicine; it should never invade curative medicine. It has, however, in its enthusiasm sometimes gone into the treatment and curative branch of medicine. And from this field, it should be driven away.

Any examination of the records and proceedings of medical oragnizations will reveal the patient work done by the profession in promoting public health measures. This same policy should continue. But public health should and must realize the limitations of its activities. In a well-balanced democracy, government never does for the individual what the individual should do for himself. In consequence, public health should confine its activities to the preventive and educational fields.

However, many honest, farsighted citizens in touch with recent tendencies realize that in this country there is danger of too much paternalism, too much supervision of the individual, a danger of destroying or lessening personal responsibility and personal initiative, particularly in the field of "health."

May it be said to the credit of the medical profession, that it was probably the first representative group which raised its voice in warning against the fallacious proposal to provide professional service to the individual at public expense.

It should be emphasized that prevention and education are proper functions of the state, but the "practice" of medicine whether preventive or curative, is not a proper function of government.

Sometimes public health activities fail to emphasize the element of personal responsibility in public health matters; they sometimes tend to pauperize an element in the community well able to pay for medical service rendered to it, and to mislead the public into believing that the state should do for him what the individual should do for himself.

PROBLEM OF HOSPITALIZATION

Repeatedly we are hearing that to decrease the cost of hospitalization, and to provide the best hospital service in a community, there must be a well studied plan of construction, location, and type of hospital bed to suit the needs of individual communities. This is as essential as a financial program, or as the program of the public utilities to estimate future needs. To accomplish this, local legislation is required, and the sponsorship of civic organizations. In Detroit, there is a plan being worked out by the Public Health Committee, of the Detroit Board of Commerce, with the coöperation of Civic Improvement Associations.

The great importance of lay support in legislative work cannot be overestimated. The various agencies of a well organized Chamber of Commerce can be of great assistance, through governmental committees and public education departments. These departments are only too glad to provide information and support, which the profession could gain otherwise only at great expense, and the county societies are urged to foster this type of support.

The rapid spread of child health demonstrations and crippled children's commissions is creating many medical legislative problems. Here again the profession must weigh all activities by the basic principles already stated, and medicine must be better prepared to stop any deviation from these principles.

The trend toward paternalism creates constantly new legislative problems. The enactment of laws which create governmental aid to states, as illustrated by the Shepard-Towner Bill and its proposed successors, and by governmental aid as allowed in the Vet-

erans Bureau's ever expanding functions, should receive careful consideration by the profession and, where indicated, concerted opposition. The following remarks in this connection are presented for your consideration:

"STATE MEDICINE" AND "SOCIALIZED MEDICINE"

One of the most common difficulties in connection with policies toward state medicine and socialized medicine is the difference in understanding and application of these policies by individual members of the medical profession. As a matter of fact, there are numerous types of "state medicine" and a fewer number of types of "socialized medicine" that have become well established as governmental, social or medical principles and which are not in themselves objectionable; *provided they are applied and administered within the terms of the clearly expressed general policies of medical organization* set forth in the preceding pages.

The immense scope and wide variety of angles to the almost unlimited problem of state medicine and socialized medicine is illustrated in the estimate that there are over 1,000,000 persons employed on a whole time basis (in the United States alone) who are administering in one way or another to the care of the sick and the promotion of health. These estimates are made by Harry H. Moore, in his book, "American Medicine and the People's Health."

The agencies established, which are strictly state medicine, have created many legislative problems and will continue to do so. The wide variety of activities which can be classified as socialized medicine or unofficial medicine, such as altruistic and humanitarian efforts, may serve a definite social and economic need, especially if they are applied and administered within the terms of the fundamental policies which we are discussing. On the other hand, many of these are correct and practical in some features, and unsound socially and economically in others, while still other activities are unsound in general, both from the standpoint of sociology and economics. And these, as well as other types, when analyzed as separate problems, can be determined in their scope and intent, either good or bad, proper or improper, when fundamental policies are applied to them as a measurement test. These activities are causing an increasingly important problem and are resulting in widespread legislative activity.

Among the rapidly increasing number of activities that may be listed as "socialized medicine" and as coming within one or more of the three general groups just enumerated, are so-called health education by innumerable voluntary groups and agencies, either within their own membership or directed to the public at large and frequently including clinics, either temporary or permanent, and often made possible by assistance of governmental health departments, as well as enlisted service of physicians in private practice.

Hospitals, community fund collections and disbursements and public charities cover many "socialized medicine" activities, as do various types of clinics, free, pay and part-pay, including those on tuberculosis, prenatal, pediatric, preschool, venereal, tonsil, eye, hearing, dental, heart, orthopedic and cancer.

Another group of activities, which is being widely discussed, namely health insurance and contract practice, bids fair to result in legislative activity, at least in our own legislative bodies.

A health service based upon "quantity production" methods of modern industry, whether tests and advice by mail, community examiners, or group practice on a yearly stipend, is fallacious for the following reasons:

1. Destroys one of the fundamentals of modern medicine by eliminating the intimate relationship between physician and patient.
2. Would mean perfunctory medical service because physician would have little interest in patient.
3. Would destroy incentive for medical research.
4. Would exploit the medical profession, and menace public health.

In this relation, the pronouncement of the Speaker of the House of Delegates at the meeting of the American Medical Association in 1926 is to the point.

STATE MEDICINE AND CONTRACT PRACTICE

"This House of Delegates and the Judicial Council have defined and voiced opinions as to the Association's attitude toward so-called state medicine, contract practice and group

practice. There can be no confusion, doubt or questioning as to definition, inclusiveness or policies, for our Association has very clearly set forth its position. In like manner, expression has been voiced in regard to clinics of the free, charity and 'pay' classification. *Notwithstanding this action,* the resolutions adopted, and the Judicial Council's activities, *there are evidenced in many communities tendencies toward rapidly growing development of this type of medical practice. They are being aided, abetted and sponsored in many instances by medical men, members of constituent units and of our association, who, hiding under the guise of public health education, seek to justify their actions and ignore in doing so the Association's enunciated policies.* They defeat county and state societies' efforts toward regulation and direction of these forms of medical practice. Your Speaker does not purpose entering on a detailed discussion of the problems at this time, but he does desire to recommend that the House give consideration toward formulating some type of action that will consist of disciplinary measures whereby your former enactments will be observed and complied with by Fellows of the Association, who evidently consider themselves immune from your regulatory enactments. The query, hence, is propounded:

"Shall we not consider the recommendations and institution of procedure that will command compliance with the enactments of this Association?"

CODE OF ETHICS ON THIS SUBJECT

By implication, at least, the above pronouncement includes from the Principles of Ethics of the American Medical Association, Article 6, Section 2, as follows:

"Sec. 2.—*It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among the physicians of a community.* To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession."

The Judicial Council of the American Medical Association has defined contract practice as follows:

"By the term 'contract' practice as applied to medicine, is meant the carrying out of an agreement between a physician or group of physicians as principals, or agents, and a corporation, organization or individual, to furnish partial or full medical services to a group or class of individuals for a definite sum or for a fixed rate per capita."

One often hears remarks by medical men that the profession should not take an interest in the action of state legislatures and city councils, but when it is recalled that in various states, of all bills presented for consideration, about 10 per cent are medical in nature, and that

In the last Michigan session of the 300 odd public acts enacted, over forty dealt with health measures. And also when we review the use to which are put funds, appropriated by our lawmakers, we find that nationally, 11.3 per cent of the expenditures go to health and welfare; in Michigan 19.7 per cent; in Wayne County, 53.77 per cent, and in the city of Detroit 19.9 per cent of the expenditures go for the same purpose, indicating that all physicians should be acutely interested in all legislation.

Thus having noted various activities which influence profoundly our relations with the public, it may be stated, in substance, that the problem of definition is important and that an application of relatively permanent fundamental principles is necessary.

At this time, it may be assumed, therefore, that any plan or system which affects the medical profession detrimentally will inevitably be detrimental to the public as well. Any plan, system or activity which tends to destroy or lessen scientific research, individual initiative and ambition, adequate remuneration for effort and ability, scientific independence, reasonable competition, personal responsibility; which would lower the standards of medical education or inculcate unsound ideas in the public mind toward scientific medicine—are wrong, unwise, impractical and will inevitably be doubly costly to the public.

I would call your attention to the constant spread of agitation to include occupational diseases under the Workman's Compensation Act. Such a bill will be presented in the present session of the legislature. Governor Brucker has been outspoken in his support of such a measure and if the possibilities of such legislation are considered, and to them

add the probability of allowing compensation and delegating medical care to the employer, in all cases in which existing disease is influenced or aggravated, it will be realized how large a percentage of the practice in an industrial community will be added to that of the previously mentioned 19 agencies, medical care being carried on under the direction of a lay commission. An effort to direct this type of legislation into proper channels is imperative. It might be mentioned that the present Workman's Compensation Board has expressed a lack of any desire to consult the profession, even on matters which are strictly medical in nature.

In speaking before county medical societies, the writer has noticed that the problem of denying admission to certain applicants to membership has proven embarrassing, and in certain cases has involved threatened recourse to the civil courts. State legislation establishing the status of this problem is inevitable.

In conclusion it can be said that the responsibility of the county society is to have a thorough understanding of the social trend of medicine outlined, the various agencies and their activities enumerated, and the fundamental principles understood. With this understanding it is possible to develop a plan of legislative activity which will direct and control the problems as they occur locally, and thus provide support for the important work of the state medical society.

NOTE: The writer has used freely the ideas of Dr. Leslie Bigelow, his teacher, and former president of the Ohio State Medical Society.

AN ANALYSIS OF TWENTY-FIVE CASES OF ECLAMPTIC PREGNANCIES

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The toxemias of pregnancy have always been a serious problem to the obstetrician, and to the man in general practice their grave import has produced a respect that is tinged with fear. Of recent years the literature upon the subject has assumed proportions so great as to make it difficult for the average physician to keep pace.

Through the coöperation of my chief, the late Dr. W. E. Welz, and members of the Providence Hospital Staff, a series of twenty-five cases of the eclamptic toxemias was studied as they occurred in private practice. Such observations were made as tended to bear upon the more recent findings in the literature.

Text-books state that the greatest number of cases occur amongst primiparæ, especially between the ages of twenty and thirty. These figures are well borne out in this small series as shown in Table 1.

TABLE 1

Case	Parity	Age
1	I	29
2	I	19
3	I	21
4	I	27
5	I	17
6	I	22
7	I	24
8	II	17
9	I	21
10	I	34
11	I	23
12	I	20
13	I	26
14	I	34
15	I	26
16	I	25
17	II	32
18	III	34
19	I	30
20	I	32
21	I	28
22	II	42
23	I	30
24	II	29
25	III	41

VISCOSITY OF THE BLOOD

It has been a long known clinical fact that in cases of eclampsia, when venesection or blood letting has been attempted, it has been necessary to use a needle of very large bore. This has been necessary because it has been invariably found that the blood is very thick and that it clots easily; in fact it may be so thick as to refuse to flow even

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through needles of extremely large bore, hence necessitating cutting down on the vein. Engelman was one of the first to attempt to measure the actual viscosity in cases of eclampsia. More recently Gruhzit studied half a dozen cases, reporting an increase in viscosity.

With a view to determining the exact relationship of this phenomenon, the Hess model viscometer was employed. The principle is mainly this: the viscosity of distilled water at room temperature is taken as the standard, this being considered as 1. The viscosity of the blood is then measured by the degree of displacement of a given column of distilled water. Readings are made directly on the instrument.

TABLE 2

VISCOSITY OF THE BLOOD

Case	Diagnosis	Viscosity
1	E	4.5
2	P E	3.8
3	E	3.9
4	N T	3.8
5	N T	4.0
6	E	4.3
7	E	4.2
8	N T	4.4
9	P E	4.4
10	P E	3.9
11	E	4.2
12	E	4.1
13	E	4.5
14	E	4.7
15	P E	4.3
16	P E	4.6
17	P E	3.4
18	N T	4.6
19	E	3.5
20	E	5.1
21	E	4.9
22	E	3.9
23	P E	3.9
24	N T	3.1
25	N T	3.2

In order to check the instrument and to establish a normal, fifteen cases of normal pregnancy taken at random gave an average reading of 3.4. Table 2 records the findings in the twenty-five toxic cases. For the sake of correlation with clinical findings, the cases are labeled E, P E, and N T in the table; denoting eclampsia, pre-eclampsia, and nephritic toxemia. It is significant that the cases recognized clinically under the heading of eclampsia are the ones with the high viscosity readings. These were the cases occurring as a rule in primiparæ apparently normal until about the seventh month, who suddenly without warning began to have marked elevation in blood pressure, albuminuria, headaches, and convulsions; and who after the termination of pregnancy returned to an apparently normal state.

Those cases having viscosity readings at or below normal were generally cases which gave histories of previous nephritic disturbances and who post-partum still showed elevated blood pressures and varying degrees of disturbed renal function.

This may offer an explanation, at least in part, for the increase in blood pressure and the therapeutic rationale of venesection in the true eclampsias. As a generalization one may conclude that in true eclampsia the blood viscosity is increased, whereas in nephritic toxemias the viscosity tends to remain normal or is lowered. The latter coincides with the findings of Austrian at Johns Hopkins, who studied the viscosity in some of the anemias and nephritides.

ISOAGGLUTINATION TOXEMIA

In 1905 Dienst stated that agglutinative changes occurring in eclampsia were the result of the invasion of the maternal organism by fetal cells showing that the maternal serum would agglutinate the cells of the fetus. McQuarrie and Gruhzit recently have attempted to confirm these views. The entire theory is based upon the principle of incompatible blood transfusion.

TABLE 3

BLOOD TYPES—JANSKY METHOD

Case	Mother	Baby	Father	Diagnosis
1	II	IV	IV	E
2	II	IV	?	P E
3	II	II	II	E
4	IV	III	?	N T
5	I	I	I	N T
6	II	IV	IV	E
7	IV	IV	II	E
8	II	IV	IV	N T
9	II	IV	IV	P E
10	IV	IV	IV	P E
11	II	IV	IV	E
12	III	IV	III	E
13	IV	IV	IV	E
14	II	IV	II	E
15	III	IV	II	P E
16	IV	IV	IV	P E
17	III	IV	IV	P E
18	IV	IV	IV	N T
19	IV	IV	IV	E
20	II	IV	IV	E
21	IV	IV	III	E
22	IV	IV	III	E
23	IV	IV	IV	P E
24	IV	IV	III	N T
25	IV	IV	IV	N T

Table 3 gives the results of the blood groups of mother, father, and child according to the Jansky method. In all doubtful cases the cells and sera were directly typed, otherwise stock sera of P. D. & Co. were used.

Gruzhit advances the theory that the increased viscosity found in true eclampsia is due to the incompatibility of the maternal and fetal elements of the blood. Reference to the table refutes this theory at once. There exists incompatibility in cases of nephritic toxemia as well as true eclampsia. Again there are cases of true eclampsia which show no incompatibility whatever, as witness cases 3, 13, and 19. We must look for some other explanation as to the cause of the increased viscosity.

BLOOD CHEMISTRY

Table 4 gives the blood chemistry findings obtained from the blood drawn at the time of convulsion or just previous to delivery. The only predominant diagnostic feature of the entire study is the marked elevation of the uric acid content in cases of true eclampsia.

URINALYSES

Specimens were obtained on entry to the hospital and previous to delivery. Postpartum specimens were obtained by catheterization on the tenth day after delivery. In the true eclamptics the urine practically always returned to normal; whereas in the nephritic toxemias the residual kidney changes were permanent. Careful questioning always elicited a previous history of renal disturbance in the nephritics.

TABLE 4

BLOOD CHEMISTRY

Case	Diagnosis	N P N	Uric Acid	Creatinine	Sugar
1	E	28.6	6.1	1.7	93.0
2	P E	25.5	4.2	1.3	130.0
3	E	26.7	2.5	1.56	87.9
4	N T	25.5	4.0	1.46	81.8
5	N T	38.9	2.1	1.56	90.0
6	E	35.2	3.26	1.26	92.0
7	E	25.21	4.3	1.42	100.0
8	N T	31.5	6.15	1.54	98.9
9	P E	29.1	3.81	1.33	97.2
10	P E	28.0	4.71	1.52	95.4
11	E	40.0	5.71	1.3	95.7
12	E	31.9	5.31	1.6	93.7
13	E	32.2	5.9	1.2	107.1
14	E	32.6	7.3	1.81	111.1
15	P E	25.6	3.4	1.2	94.3
16	P E	28.8	3.42	1.23	124.5
17	P E	27.2	5.9	1.81	90.2
18	N T	34.6	4.84	1.62	86.3
19	E	34.4	5.2	1.62	100.0
20	E	41.6	5.34	1.62	110.0
21	E	32.2	4.84	1.24	90.0
22	E	35.2	6.02	1.76	100.0
23	P E	31.2	5.41	1.02	95.0
24	N T	34.4	3.1	1.05	98.5
25	N T	30.7	3.9	1.26	101.5

Renal function P. S. P. Tests coincided with the results obtained by urinalysis.

CAPILLARY MICROSCOPY

Hinselman and his co-workers have advanced the theory that the underlying basic cause of eclampsia is a vasomotor disturbance creating an angiospasm. To corroborate this a study of the circulation of the capillaries was made. The finger nail bed, with the technic as first introduced by Lombard, was used. In those cases in which the viscosity was found elevated, the following capillary observations were made: hairpin shapes; bulging at the convexity; elongation of the loops; retardation of flow of blood; marked beading; arterial angiospasm; increased venous dilatation.

TABLE 5

OPHTHALMOSCOPY

Case	Findings
1	Normal fundus
2	Normal fundus
3	Nasal papilledema. Slight venous congestion
4	Venous tortuosity and engorgement. Moderate papilledema.
5	Vessel engorgement slight. Increased retinal redness
6	Normal fundus
7	Slight papilledema
8	Choked discs. Venous engorgement and tortuosity
9	Normal fundus
10	Venous tortuosity and engorgement slight
11	Normal fundus
12	Normal fundus
13	Normal fundus
14	Slight venous engorgement
15	Normal fundus
16	Normal fundus
17	Nasal papilledema
18	Chronic albuminuric retinitis
19	Slight receding papilledema
20	Not examined. Patient died
21	Slight papilledema
22	Normal fundus
23	Receding papilledema
24	Normal fundus
25	Normal fundus

In those cases in which there was evidence of distinct renal pathology, the following were observed: numerous hairpin shapes; alternation of flow; reversal of flow; very marked tortuosity of loops; numerous branching forms.

OPHTHALMOSCOPY

The findings in the retina are given in Table 5. With the exception of those cases in which there was advanced change, no definite diagnostic phenomena were present.

BIRTHS

Of the twenty-five children that were born there were sixteen alive and nine stillbirths with a fetal mortality of thirty-six per cent. This appears to be very high but when it is considered that the majority of the babies were premature, and that they in turn were affected by the toxemia of the mother, then it will be seen that the results are comparatively good. Table 6 confirms this.

TABLE 6

BIRTHS

Case	Sex	Condition	Age Weeks	Length Cm.
1	M	Alive	38	48
2	M	Alive	40	50
3	M	Alive	38	46
4	F	Alive	40	48
5	F	Stillborn	30	35
6	F	Stillborn	32	40
7	M	Alive	36	44
8	F	Alive	36	45
9	M	Alive	36	44
10	M	Alive	36	49
11	F	Alive	32	40
12	M	Stillborn	34	43
13	F	Alive	40	53
14	F	Stillborn	32	40
15	F	Alive	40	52
16	M	Alive	36	43
17	F	Alive	40	52
18	M	Stillborn	32	40
19	F	Alive	40	45
20	F	Stillborn	40	48
21	M	Stillborn	24	31
22	F	Stillborn	40	53
23	F	Alive	40	46
24	M	Stillborn	30	35
25	F	Alive	40	50

MECHANISM OF LABOR

The conservative method of treatment was followed throughout with one maternal death. This case entered the hospital in a moribund condition. Table 7 shows the procedures followed in delivery. In general, venesection, morphine in heavy dosage, limitation of fluids, reduction of protein and forced elimination were the measures instituted.

SUMMARY

1. Convulsive pregnancies tend to occur mostly in primiparæ between the ages of twenty and thirty years.
2. The viscosity of the blood appears elevated in true eclamptics as differentiated from nephritics.
3. Isoagglutination toxemia is not an etiologic factor in the causation of the eclampsias.
4. Urinalyses offer valuable aid as to diagnoses; whereas renal function tests help determine prognoses.
5. Blood chemistry studies are of no definite value in themselves. The only constant finding is an elevation of the uric acid in eclampsia.
6. Capillary microscopy lends support to the angiospastic theory of eclampsia.
7. Ophthalmoscopy is only a supplementary aid in diagnosis.
8. Convulsive pregnancies are attended with a high fetal mortality due to prematurity and toxicity.
9. Conservative treatment gives the best maternal results.

TABLE 7

MECHANISM OF LABOR

Case	Presentation	Delivery
1	R O A	Labor induced. Mid forceps
2	R O A	Normal delivery
3	R O A	Mid forceps
4	R O A	Normal delivery
5	R O A	Normal delivery
6	L O A	Normal delivery
7	S L A	Breech extraction
8	R O A	Normal delivery
9	L O A	Normal delivery
10	R O A	Labor induced. Normal delivery
11	L O A	Low forceps
12	R O A	Normal delivery
13	L O A	Low forceps
14	L O A	Normal delivery
15	R O A	Normal delivery
16	L O A	Low forceps
17	L O A	Normal delivery
18	L O A	Normal delivery
19	R O A	Mid forceps
20	R O A	Manual dil. Version-Ext.
21	S R A	Footling. Breech Ext.
22	L O A	High forceps
23	R O P	Low forceps
24	R O A	Normal delivery
25	L O A	Normal delivery

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PSYCHIATRY IN PEDIATRICS

LEO HENRY BARTEMEIER, M.D.
DETROIT

Discussions regarding the practical application of Child Guidance have not resulted in any very definite solution for pediatricians in private practice. Whether or not such physicians shall assume the responsibility of advising parents about the training of their children apparently remains a mooted question. Among pediatricians, there is one particular group, represented by Dr. Bronson Crothers, who maintain that the pediatricians themselves should administer mental hygiene. They contend that it is less complicated than it seems and that it is the duty of child specialists to carry out this project. It is quite generally conceded among American psychiatrists, on the other hand, that Child Guidance Clinics, with their organizations of psychiatrists, pediatricians, psychologists and psychiatric social workers, constitute a sensible method of directing child health. In the field of education, we have witnessed an extensive and enthusiastic movement among clinical psychologists to meet the issue of mental hygiene through the contacts which the child and his parents make with the school. Finally, there are those who identify mental with spiritual health and believe that the Church is best fitted to advise in these matters.

No aspect of child behavior can be properly interpreted or corrected without a knowledge of the child as a whole and an understanding of the environment in which he lives. A school failure, persistent enuresis, or a troublesome stealing problem, are symptoms of a disorder which involves the total child and it is our belief that this broader conception of the word "health" necessitates important changes in pediatric practice. Methods employed today however, continue to devote attention only to the child's physical status and thereby remain fractional and incomplete. They fail to study the child as an individual and take no cognizance of the principles and objectives of mental hygiene now universally accepted and in existence more than two decades. Believing that the establishment of a closer relationship between psychiatry and pediatrics would meet the present day needs of those devoting themselves to child care, it was determined to experiment with such a procedure over a period of six months. This decision was further prompted by our efforts during the past three years to facilitate a better arrangement whereby the pediatricians' patients might be studied from the mental hygiene standpoint. Psychiatric consultations from the pediatricians had not always evolved as successfully as we would wish. The referring physician sometimes found it difficult to persuade a mother to bring her child to us for examination because she frequently did not understand the complexity or the seriousness of the problem. The psychiatrist, on the other hand, not infrequently experienced certain obstacles in establishing proper rapport and became convinced that mothers have a psychological relationship with the pediatricians, of which apparently neither they nor the physicians are always aware. We were increasingly impressed of the need for adopting a plan not heretofore practiced among medical men.

After consulting with a group of pediatricians, it was decided that instead of the mother bringing the child to the psychiatrist in his office, she was to visit the psychiatrist in the office of the pediatrician. A particular day was set aside each week and four hours were given over to the study of those children whom the pediatricians might wish to refer. The notion of a visiting or part-time psychiatrist was not a new suggestion. Child Caring Departments of many social agencies throughout the land have employed such methods to good advantage for at least the past five years.

Whenever the need for psychiatric examination and advice occurred, the pediatrician discussed the value of such procedure with the mother and suggested that at the time of her next visit to his office, this part of his service to the child would be rendered by one of his colleagues. In no case did parents make objections to such procedure. When the mother and child arrived for the appointment, the mother was interviewed by the psychiatric social worker, who obtained

the necessary social history, and simultaneously the child was studied by the psychiatrist; upon the completion of these two steps, the worker and psychiatrist conferred and the mother was then given some understanding of the problem and such advice as seemed most important was formulated. If necessary, a subsequent appointment was arranged and further study could be thus accomplished by combining it with additional advice to the parent. Notes were dictated in the record, and from now on the pediatrician found an opportunity to follow the treatment hand in hand with the psychiatrist, and he was thereby able to acquire actual experience in a clinical demonstration of mental hygiene work.

In those cases which the child specialist had been following over a fairly long period and there arose a need for psychiatric assistance, it was found advantageous to give whatever advice possible during the first psychiatric interview. The study was thereby abbreviated and only the more important aspects of the problem were attacked; the others could always be discussed at subsequent visits.

This six months' experiment was productive of certain conclusions which heretofore had not been so clearly appreciated. Among these, the following were the most important:

It soon became apparent to us that there had been set up between the pediatrician and the mother of the child the same relationship which exists between the psychiatrist and his patient, and that not until the psychiatrist had become identified with the pediatrician was it possible to secure a rapport of a satisfactory type. That she regarded the psychiatrist as the pediatrician was borne out by the fact that in the course of the psychiatric interview she frequently asked for advice about physical problems as well and often misnamed the psychiatrist, addressing him by the surname of the pediatrician. If the case was of such a nature that the pediatrician would desire to transfer it for subsequent psychiatric care, we now experienced no difficulty in having the mother bring the child to us in our own offices.

When a child is ill, his mother looks to the pediatrician for help. The relationship between the mother and the physician seems a purely social one; he prescribes no medicines nor treatments for her and never makes any examinations. There is not the ordinary doctor-patient relationship. The mother's association with the pediatrician is one in which faith and confidence largely dominate; she believes him, trusts him and hopes in him; she is uneasy until he arrives; once he is there, her personality reactions undergo a change; all becomes calm; her symptoms of apprehension, dread and fear, disappear; she feels the influence of his protection. He, in turn, frequently relies upon *her* ability to follow his advice—to phone him if a change for the worse occurs—to assist him in the restitution of the child who is sick, and, once she has done these things, he has acquired a certain faith and feeling of confidence in her. These are some of the reasons why he finds it difficult to send her to another physician, whose office is usually removed from his own and whose type of work is unfamiliar to her. These are also some of the causes which make it so arduous for the psychiatrist to succeed with her. As soon, however, as she faces the psychiatrist as the pediatrician's helper, no longer do these obstacles exist.

We have frequently said that to treat the child we must treat his mother, but the significance of this statement is seldom appreciated by most of us. Whenever summoned to care for a child, the pediatrician is in reality being called upon to render service to two patients; the smaller is mainly physically ill; the other, more mentally disturbed. Whatever he accomplishes for the child incidentally constitutes the best possible instrument with which he can persuade the mother to follow his advice in matters of mental hygiene. He has become a person of authority and is in a peculiarly fortunate position to succeed in matters of Child Guidance.

It is my conviction that all those problems which arise in the course of establishing primary habit reactions, such as the feeding, toilet, sleep and play habits, are often amenable to correction by the pediatrician and need not be referred for special psychiatric advice. I would also commend for your consideration the inclusion of a relatively few simple questions regarding these matters to be routinely asked in the course of the taking of the medical history. Your inquiring as to whether certain vegetables are refused, your questioning the parents about

the child's behavior in connection with his going to bed, lend such topics an importance which they would otherwise not ordinarily command. Pediatricians will render great service to Child Guidance through such humble efforts. You are known as Child Specialists to the mothers of your patients. They often expect your advice in these matters. If you find it necessary to refer them to a psychiatrist when they inquire of you regarding these difficulties which seem small to them, they frequently do not accept the suggestion whole-heartedly; somehow, their confidence is lessened; you weaken the bonds of that psychological relationship we have attempted to describe.

If you are believers in Child Guidance, then, as good mental hygienists, it is necessary that you set certain examples.

We will first consider your own attitude toward the child. It is a well known fact that the mother's powers of observation are considerably enhanced in her state of apprehensiveness over the illness of her child. Your behavior during the examination of a sick youngster is usually observed most minutely by the mother. The least impatience, the slightest irritability, or any lack of gentleness and humaneness, is instantly detected. Perhaps the greatest criticism mothers make is the feeling that you are in a hurry. You are anxious to obtain an accurate understanding of the child's physical condition, but if in so doing you disrupt any of the components of the psychological relationship with the mother, you automatically interfere with what you can subsequently accomplish for the child, and it is obvious that the child's chances of recovery often hinge so definitely upon how well you succeed with the mother. Your confidence in your own judgment is manifested in your giving a diagnosis without hesitation, or by saying frankly that you do not know and that it will be necessary to observe the child further.

Whenever called upon to treat a child in an acute illness, it might well be included, as a portion of your therapeutic program, to caution the mother to avoid excessively indulging the patient. While curing the physical disorder, it is important not to thereby encourage the development of a behavior problem. Less emotional and more intelligent nursing will frequently diminish tendencies to develop the spoiled-child type of reaction. An attack of mumps should not be the justification for supplying the child with an assortment of new toys, nor for pampering and constant unnecessary attention. When informed that her child suffers from her over-indulgence, so many a mother is quick to offer the argument that "he has been sick so much." While I am not in favor of an utter lack of solicitude and attention during acute illnesses, I know, on the other hand, that a greater amount of these is necessary than during periods of good health. What I plead for is less affection and less spoiling. Not a few of the enigmatic complaints of sick youngsters represent drives for more and more attention. Illness should be made as painless and bearable as possible, but never a pleasurable episode. We, as physicians, are too often inclined to abet the spoiling of the child by our efforts to comfort the mother in yielding to her various requests which prolong convalescence unnecessarily and not infrequently establish such patterns of behavior that subsequent illnesses in adult life occur more easily Placing a premium on the illnesses of childhood tends to develop invalidism in adult life. When you hear or see mothers bribing, coaxing or threatening the child prior to or in the course of your examinations in the office or in the home, just a word of explanation of the harmfulness of such behavior will, in time, constitute valuable steps in Child Guidance.

We have discussed briefly your own attitude toward the mother and the child. The pediatrician's nurse, in her contacts with his patients, is also in a position to render mental hygiene some good assistance. We suggest that she give less service to many of the youngsters who are three years or older. It is true that a little more time will be required, but if she will encourage the child to remove his own clothing, the child will obtain considerable satisfaction in demonstrating his manual ability, and if he is successful the mother also will be included in feelings of pride. If, on the contrary, he is unable to perform such a task, an example has been set by the nurse of what should be expected of the child and the mother will often be stimulated to begin such training soon thereafter. We consider it also a good plan to permit the child to climb onto the examining table by means of conveniently arranged steps, in order to

demonstrate to the mother how she should develop confidence in her youngsters. These are the small and tiny points in professional behavior which are sometimes known to the profession as technic, but I contend that they are all-important if we are to succeed in Child Guidance.

Within our six months' experimental period, none of the twenty-eight children referred for consultation were more than ten years of age, and almost one-half of the group were pre-school children. The value of this experiment can be appreciated from the fact that twenty-seven of these children continue to remain under active supervision. For practical purposes, they may be said to fall into four general sets:

1. Organic disease of the central nervous system. These included a five-year old boy with generalized sarcomatosis of the central nervous system. In this group also was an eight-year old girl, whose encephalitis presented a most difficult diagnostic problem because of its similarity to brain tumor. We have not yet been able to arrive at definite conclusions regarding a ten-year-old boy whose periods of somnolence remain unexplained.

2. Feeblemindedness, which included not only two cases of rather severe mental defect and the need for their proper placement, but two other interesting youngsters whose high degree of mental deficiency makes it necessary that we arrange with the school authorities for a special type of education.

3. We have encountered certain children whom we have seen fit to call borderline cases; these remain under our observation and we have not yet been able to determine whether their symptoms are organic or psychogenic in origin.

4. The largest number fall into this group, which comprises such problems as bad feeding habits, enuresis difficulties, children who bite their nails, spoiled child reactions, stammering youngsters and those who have developed lying and stealing tendencies.

In conclusion it may be stated that the above four general groups represent quite fully the deviations wherein the assistance of a psychiatrist appears decidedly warranted and desirable. Nevertheless, I am of the opinion that if we are to obtain a maximum degree of success in our management of so-called behavior problems the same can only come about through mutual coöperation and the utilization of the previously mentioned psychological relationship existing between mother and child.

DISCUSSION

Dr. Campbell Harvey (Pontiac): I am very much in sympathy with the Mental Hygiene in Childhood Movement. The pediatrician must do a great deal of this work himself, and I know it constitutes about sixty per cent of my work. I think that the best laboratory for the work in mental hygiene and child guidance is the child in his environment.

To illustrate: A child was brought to me for circumcision. As this had already been well done, I asked why the child needed such an operation. "Well, he is nervous, and the school nurse said he needed to be circumcised," the parents said. "Did the nurse examine him?" I asked. "No," they said, "but he is so easily excitable and fidgety that she thought it would cure him." Further questioning brought out the fact that the school teacher was slapping children's faces in school. The discharge of the teacher brought relief. To think that such things are going on in a standard school today is preposterous! The child is a unit. He must be considered from the mental, physical, hereditary and environmental standpoints, oftentimes by the pediatrician.

Frequently, a careful history will reveal a cause for nervousness or departure from normal mental behavior. If we as pediatricians will not help the child, the parents sometimes will not take him elsewhere. This is due to the general antipathy of the public to mental disease, or what they think is mental disease, and the common fallacy that "he will outgrow it." There is still a further factor entering into it. Unlike a physical ailment, which many a fond parent wishes on his child, a mental difficulty or environmental maladjustment is looked upon as either unimportant, is repressed because the thought is unpleasant, or the person mentioning the abnormal behavior as requiring special attention is considered to be too critical. I have in mind an eight-year-old boy who is, in my opinion, bordering on idiocy. I have watched him from childhood, being called in occasionally in consultation for pysical ills. He has been examined by Merrill-Palmer School, who has told the mother that the child is mentally backward, also by a half-trained psychologist who tells the mother that "the child is a victim of his fears" and by a neurologist who fails to recognize the mental deficiency. The family physician feels as I do about the case, but we have both felt that a psychiatrist should be consulted. The mother, of course, feels that the child is simply a victim of his fears, although she admits to me he has no real fears because she has carefully guarded him, and will not believe the truth. Sometimes we, as pediatricians, can help the mother understand these cases.

There is another kind of case, however, which we neither have the time nor the ability to handle. Such a case is an antipathy between mother and son. The case required careful study of both mother and son by a capable psychiatrist, and for a period of a year of study no absolute diagnosis has been made.

I think that Dr. Bartemeier's method of examining the child in the pediatrician's office will solve a great deal of the difficulty.

FAMOUS MEN IN MEDICAL HISTORY

BENJAMIN FRANKLIN AND THE FOUNDING OF THE PENNSYLVANIA HOSPITAL*

RUSSEL L. MALCOLM

Benjamin Franklin, in his childhood environment, could have hoped for nothing more than a life of hard and steady labor, yet it was his persevering pursuit of that very labor which made him the representative of his people on many foreign missions. In this paper, only a very inadequate summary will be made of Franklin's interests outside of the field of medicine. In fact, it is not my purpose to attempt to cover even his medical work, but rather to show, if possible, that Franklin, though not primarily a physician, rightfully deserves an important position in the history of American medicine, a fact which, I believe, is not generally known.

Benjamin Franklin, the tenth son of Josiah Franklin, was born the seventeenth of January, 1706, across from Old South Church in Boston. Entering school at the age of eight, he remained for only two years, being forced to stop because of financial difficulties. For the next few years he assisted his father in the business of a tallow chandler and soap boiler. In his thirteenth year, he was apprenticed to his half brother James, printer of the New England Courant. The young apprentice, under an assumed name, wrote many articles, which were so very favorably accepted by the readers that James became jealous of his brother's success. Relations became so strained that at the age of seventeen the younger brother ran away to Philadelphia, where he was destined to make his home until his death, April 17, 1790.

In 1724, following the advice and believing the promises of Governor Keith, Franklin went to London to get equipment to start in business for himself. Upon arriving he found he had been tricked, and the governor had made none of the preparations promised. Consequently the young printer was forced to find work there. Here he remained until 1726, when he returned to Philadelphia to establish his own shop. This marked the beginning of Franklin's influential writing, which rapidly brought him before the public's eye, and thus paved the way for his varied and famous career.

Volumes have been written on the public and private life of Benjamin Franklin, so suffice it for me to say here that he represented his province in the General Assembly; his country in London and Paris; was one of the signers of the Declaration of Independence; and one of the most active of those who attempted to bring about harmony between England and the American colonies.

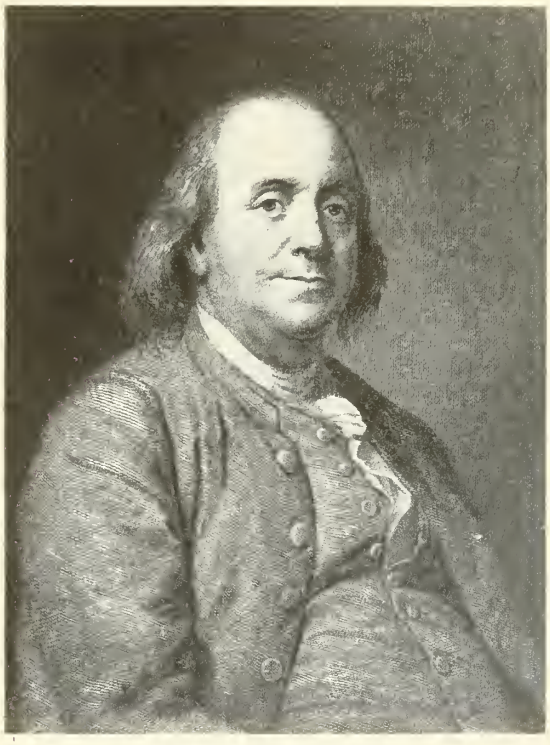
In dealing with the phases of Franklin's life, in which we are primarily interested in this paper, I shall discuss, first, his connections with the American Philosophical Society; second, his part in the founding of the Pennsylvania Hospital; and third, his writings on disease.

Franklin, in his autobiography, says: "In the year 1728, when I was but twenty-two years of age, I united the majority of well informed persons of my acquaintance into a club which was called the Junto, the object of which was to improve our understandings. We met every Friday evening." The American Philosophical Society is the direct lineal successor of that Junto, and still maintains the Friday evening meetings. As the population grew larger, and the colonies became more densely settled, Franklin saw the need of a society of larger scope and usefulness than the Junto, so in 1743 he issued his circular entitled, "A Proposal for Promoting Useful Knowledge among the British Plantations in America." In this he urged that "one society should be formed of virtuous or ingenious men residing in the several colonies, to be called The American Philosophical Society, the members of which are to maintain a constant correspondence." And that "Philadelphia, being the city nearest the center of the continent colonies, communicating with all of them northward and southward by post, and with all of the islands by sea, and having the ad-

*Delivered before the Victor C. Vaughan Society of the University of Michigan Medical School, November, 1930.

vantage of a good growing library, be the center of the society."

The proposition was favorably received, and Dr. Franklin, when in New York in the spring of the following year, wrote to Gov-



Benjamin Franklin

ernor Colden of that province as follows: "I can now acquaint you that the society, as far as relates to Philadelphia, is actually formed and has had several meetings to mutual satisfaction. . . . The members are: Dr. Thomas Bond as physician, Mr. John Bartram as botanist, Mr. Thomas Godfrey as mathematician, and many other prominent men." Thus was started the first scientific society in the new world. It led a struggling life, and it is believed by several authorities that in the late fifties the society passed into a condition of "suspended animation" only to revive at a later period with more vigor than ever.

For the original Junto Franklin still retained the warmest affection, as evidenced by his letter to Hugh Roberts, written from England in 1765: "I wish you would continue to meet the Junto, notwithstanding that some effects of our public political misunderstandings may sometimes appear there. 'Tis now perhaps one of the oldest clubs, and, as I think, it was formerly one of the best in the King's dominion. It wants but about two years of forty since it was established."

The political dissensions between the Proprietory party, led by James Hamilton, the president of the Philosophical Society, and the Popular party, led by Franklin, resulted in the concentration of the friends of the former in the American Philosophical Society. This in turn inspired Franklin's friends to reorganize the Junto under the name, "The American Society Held at Philadelphia for Promoting Useful Knowledge." It elected Dr. Franklin president, and added to its membership many men of note from other provinces. Many members, by 1768, of one society, also belonged to the other so that it was inevitable that a union of the two societies must come. The conjoined society was formed in the following year under the name, "The American Philosophical Society Held at Philadelphia for the Promotion of Useful Knowledge." Franklin was elected president over his political opponent, James Hamilton, an office which he held by successive re-elections until his death in 1790.

The transactions of the society have been published, and in them we find that one of the more prominently discussed subjects was Medicine. In these discussions Franklin took an active part with such men as Rush, Morgan, and Bond.

The early transactions of the society reveal that the medical subjects which Franklin discussed included the common cold, fresh air in the treatment and prevention of disease, gout, and stone in the bladder. These will be reviewed later in the paper.

Secondly, we shall discuss Franklin's part in the founding of the Pennsylvania hospital. It is from Franklin that we find the evidence that this is the oldest hospital in Pennsylvania. It was not founded until 1751, and for this reason the statement is sometimes made that the present Philadelphia hospital antedates it. This assertion, however, is not based on a correct understanding of the facts. As a city poorhouse or almshouse, the municipal institution is entitled to claim priority of foundation, but not as a hospital in the generally accepted sense of the term.

Benjamin Franklin in his account of the Pennsylvania hospital states the following

to show there was no provision for the sick and injured in Philadelphia: "About the end of the year 1750, some persons, who had frequent opportunities of observing the distress of such distempered poor as from time to time came to Philadelphia for the advice and assistance of the physicians and surgeons of that city, saw how difficult it was for them to secure suitable lodgings, and other conveniences proper for their respective cases, and how expensive the providing of good and careful nurses, and other attendants, for want thereof, many must suffer greatly, and some probably perish, that otherwise might have been restored to health and comfort, and become useful to themselves, their families, and the public, for many years after, and considering, moreover, that even the poor inhabitants of this city, though they had homes, yet were therein but badly accommodated in sickness, and could not be so well and easily taken care of in their separate habitations, as they might be in one convenient house, under one inspection and in the hands of skillful practitioners; and several inhabitants of the province, who unhappily became disordered in their senses, wandered about to the terror of their neighbors, there being no place except the house of correction or almshouse in which they might be confined and subjected to proper treatment for their recovery, and that the house was by no means fitted for such purposes; did charitably consult together and confer with their friends and acquaintances on the best means of relieving the distressed under those circumstances. . . . "

Further evidence of the lack of any hospital provision for the sick and insane is advanced in Franklin's petition to the House of Representatives of the province for a charter for the hospital, which states: "Your petitioners beg leave further to represent, that, tho' the good laws of this province have made many compassionate and charitable provisions for the relief of the poor, yet something further seems wanting in favor of such whose poverty is made more miserable by the additional weight of a grievous disease, from which they might easily be relieved, if they were not situated at too great a distance from regular advice and assistance; whereby many anguish out their lives, tortur'd perhaps with the stone, devour'd by the cancer, deprived of sight by cataracts, or gradually decaying by loathsome distempers; who if the expense of the present manner of nursing and attending them separately when they come to town were not so discouraging might again, by the judicious assistance of physic and surgery, be enabled to taste the blessings of health, and be made in a few weeks useful members of the community, and able to provide for themselves and families."

In his autobiography Franklin tells how his friend, Dr. Thomas Bond, conceived the idea of establishing a hospital in the city of Philadelphia and started out to obtain subscriptions for it. His efforts met with very little success, and after a time he came to Franklin telling him that many of those whom he asked for money would inquire if he had consulted Franklin, and what the latter thought of the matter. When Bond told them he had not because he considered it was out of the statesman's line, they had put him off with the reply that they would consider the proposition. Franklin, being always willing to aid in such projects for the public, engaged heartily in the support of the affair. He endeavored first, according to his custom, to prepare the minds of the people by writing on the subject in the newspapers. Subscriptions began to come in more generously, but he soon saw it would be necessary to secure aid from the assembly, which he petitioned. The country members were opposed because they thought it would serve only the inhabitants of Philadelphia, and that therefore the citizens of the city should bear the expense. They claimed that Franklin's statement that two thousand pounds had been raised by subscription was preposterous. Therefore, Franklin drew up another petition by which it was enacted that whenever the hospital should be organized and its managers have secured two thousand pounds by voluntary subscription, the assembly should grant an equal sum towards the project. This condition carried the bill. Franklin concludes his account of the affair by this statement: "I do not remember any of my political manoeuvres, the success of which at the time gave me more pleasure; or wherein, after thinking of it, I more easily excused myself for having made use of some cunning."

The managers had no trouble in raising more than two thousand pounds by subscrip-

tion, but a further objection raised against the petition was that the expense of paying physicians and surgeons would use up the money. Consequently Drs. Lloyd Zachary, Thomas Bond, and Phineas Bond offered their services to the hospital without pay. The charter was formally granted on May 11, 1751.

The board of managers was appointed and Joshua Crosby elected the first president and Benjamin Franklin its first clerk. Many of the early minutes of their meetings are in Franklin's handwriting. An advertisement in the Pennsylvania Gazette of February 6, 1752, stated the hospital was prepared to receive patients.

The three doctors named above were to be assisted in consultation and in unusual cases by Drs. Greene, Cadwalader, Moore, and Redman. Benjamin and Thomas Bond were appointed as a committee to procure a seal for the hospital. The design accepted by the board is still in use, but the original, made of silver, was destroyed in 1833, when it became worn out, and was replaced by one made of steel.

In 1754 the managers desired to secure a permanent site for the hospital. Accordingly they purchased a lot for five hundred pounds from the money they had collected. By March, 1755, suitable plans were submitted, and on May 28 the board of managers laid the cornerstone, which bore this inscription composed by Franklin:

IN THE YEAR OF CHRIST
MDCCLV
GEORGE THE SECOND HAPPILY REIGNING
(FOR HE SOUGHT THE HAPPINESS OF HIS PEOPLE)
PHILADELPHIA FLOURISHING
(FOR ITS INHABITANTS WERE PUBLICK SPIRITED)
THIS BUILDING
BY THE BOUNTY OF THE GOVERNMENT,
AND OF MANY PRIVATE PERSONS,
WAS PIOUSLY FOUNDED
FOR THE RELIEF OF THE SICK AND MISERABLE
MAY THE GOD OF MERCIES
BLESS THE UNDERTAKING

In this same year Joshua Crosby died, and Franklin was elected president of the board of managers, in which capacity he officiated at the first meeting of the board in the new hospital. He continued his work of securing public subscriptions and all religious sects, speakers, and tradesmen donated liberally or preached publicly, and gave the proceeds to the hospital.

From the early records of the hospital are taken these two rather interesting admission notes:

October 13, 1755, "Michael Higgins, a soldier, was admitted, having his under jaw shot off in the late engagement under General Braddock."

June 4, 1753, "Sister Elizabeth, please to receive bearer into the hospital and entertain him there till the physicians have considered his case.

Your Friend and Serv.,
B. Franklin."

During the War of the Revolution the hospital traveled a rough road financially, and was saved only by these various subsidies. In 1767 the hospital became connected with the medical school of the University of Pennsylvania, and its further development in this relation has been brought out in the paper on Dr. John Morgan.

Thirdly, we shall discuss what is probably of greatest interest in our field, namely Franklin's writings on disease. The study of medicine was one of his chief interests, and is probably one of the least known. He borrowed and read many medical books, and discussed the treatment of various diseases. To quote William Pepper: "Benjamin Franklin lived in an age when men of education and genius in varying paths of life did not consider it strange or peculiar to think, discuss or write about medical matters. These men did not feel they were treading on any ground sacred to the physician in so doing." But to Franklin, more important than his readings was the keenness with which he observed diseases. He was not a graduate of any medical school, but he was elected a member of several medical societies. Even though he did not practice medicine as a profession, and receive payment for his medical advice, he nevertheless did treat a number of people for various ills.

The words of Franklin are far superior to any I might use, so in discussing his writings I shall quote freely from his letters in which he speaks of medical matters.

Among the many medical subjects that Dr. Franklin discussed with his friends might be mentioned, "Diet and Its Effects on Health and Disease." In one letter he wrote, "In general, mankind, since the improvement of cooking, eats about twice as much as nature requires. Suppers are not bad, if we have not dined, but restless nights naturally follow hearty suppers after full dinners. Indeed, as there is a difference in constitutions, some rest well after these meals, it costs them only a frightful dream and an apoplexy, after which they sleep until doomsday. Nothing is more common in the newspapers than instances of people,

who after eating a hearty supper, are found dead abed in the morning."

We learn from his autobiography that at the age of sixteen he became a vegetarian. He was strongly opposed to the eating habits of most of the people and believed that a vegetable diet was one to be chosen to preserve health. However, there was probably another reason for his change of diet, namely, that by giving up meat he was able to save enough money to buy the books he desired.

Franklin was keenly interested in the subject of smallpox inoculation and in strong contrast to the views of his Boston relatives on this matter he states, "In 1736 I lost one of my sons, a fine boy of four years, by the smallpox taken in the common way. I long regretted and still regret that I had not given it to him by inoculation. This I mention for the sake of parents who omit that operation, on the supposition that they should never forgive themselves if a child died under it." Franklin had his daughter Sally inoculated in 1746. That he was a great advocate of the practice is further evidenced by his many references to it in his letters. In 1759 he prevailed upon Dr. William Heberden to write an account of the success of inoculation as a means of protection against the disease. The pamphlet was entitled, "Some Account of the Success of Inoculation for the Smallpox in England and America together with Plain Instructions, by Which Any Person May Be Enabled to Perform the Operation, and Conduct the Patient Through the Distemper."

Franklin's invention of bifocal lenses entitles him to a high rank among ophthalmologists. There is a description of these lenses in a letter to George Whatley, where he says, " . . . By Mr. Dollands' saying, that my double spectacles can only serve particular eyes, I doubt he has not been rightly informed of their construction. I imagine that it will be found pretty generally true that the same convexity of glass through which a man sees clearest and best at the distance proper for reading, is not the best for greater distances. I therefore had formerly two pair of spectacles, which I shifted occasionally as in traveling I sometimes read and often wanted to regard the prospects. Finding this change troublesome and not always sufficiently ready, I had the glasses cut, and half of each kind associated in the same article. By this means, as I wear my spectacles constantly I have only to move my eyes up and down to see distinctly far or near, the proper glasses being always ready."

Franklin was also an aid to the genito-urinary surgeon by his invention of a flexible catheter. This is recorded in a letter to his brother John: "Reflecting yesterday on your desire to have a flexible catheter, a thought struck into my mind, how one probably might be made, and lest you should not readily conceive it by any description of mine, I went immediately to the silver-smith's and gave directions for making one. But now that it is done I have apprehensions that it may be too large to be easy; if so, a silver-smith can easily make it less by twisting or turning it on a small wire, and putting a smaller pipe to the end, if the pipe is really necessary. This machine may be either covered with small fine gut, first cleansed and soaked a night in a solution of alum and salt water, then rub dry, which will preserve it longer from putrefaction, then wet it again, and draw it on and fasten it to the pipes at each end, where little hollows are made for the thread to bind in, then the surface is greased. Or perhaps it may be used without the gut, having only a light tallow rubbed over it to smooth it and fill the joints. I think it as flexible as would be expected in a thing of the kind, and I imagine will readily comply with the turns of the passage, yet has stiffness enough to be protruded. If not, the enclosed wire may be gradually withdrawn. The tube is of such a nature, that when you occasion to withdraw it, its diameter will lessen whereby it will move more easily. It is a kind of screw and may be both withdrawn and introduced by turning . . ."

Franklin's letters on lead poisoning have really become classics in medical literature. Dr. John Hunter founded his essay on dry belly-ache upon Franklin's letters, giving the credit freely due him for the suggestions. The first was a letter to Cadwallader Evans in 1768, a part of which I shall give here. " . . . you mention the lead in the worms of stills as a probable cause of the dry belly-ache among punch drinkers in our West Indies. I had before acquainted Dr. Baker with a fact of that kind, the general mischief done by the use of leaden worms, when rum-distilling was first practiced in

New England, which occasioned a severe law there against them, and he has mentioned it in the second part of his piece not yet published. I have long been of opinion, that that distemper proceeds always from a metallic cause only; observing that it affects, among trades-men, those that use lead, however different their trades, as glaziers, letter founders, plumbers, potters, white lead makers, and painters; (from the latter, it has been conjectured, it took its name colica Pictonum, by the mistake of a letter, and not from its being the disease of Poicton) and although the worms of stills out to be of pure tin, they are often made of pewter, which has a great mixture in it of lead. . . ."

In another letter written eighteen years later to Benjamin Vaughn there is a long account of his observations on lead. "I recollect that when I had the great pleasure of seeing you at Southhampton, now a twelve months since, we had some conversation on the bad effects of lead taken inwardly. . . . The first thing I remember of this kind was a general discourse in Boston, when I was a boy, of a complaint from North Carolina against New England rum, that it poisoned their people, giving them the dry belly-ache, with loss of the use of their limbs. The distilleries being examined on the occasion, it was found several of them used leaden still heads and worms, and the physicians were of the opinion that mischief was occasioned by the use of lead. The legislature of Massachusetts thereupon passed an act, prohibiting under severe penalties the use of such still heads and worms thereafter."

Franklin in this same letter goes on to tell of an experience with lead in England. "In 1724, being in London, I went to work in the printing house of Mr. Palmer, as a compositor, I there found a practice I had never seen before, of drying a case of types, (which are wet in distribution) by placing it sloping before the fire. I found this had the additional advantage, when the types were not only dried but heated, of being more comfortable to the hands in the winter time. I therefore heated my case when the types did not need drying. But an old workman, observing it, advised me not to do so, telling me I might lose the use of my hands by it, as two of our companions had nearly done. . . . This, with a kind of obscure pain, that I sometimes felt, as if it were in the bones of my hand, induced me to stop. But talking afterwards with Mr. James, a letter founder in the same close, and asking him if his people who worked over the little furnaces of melted metal were not subject to that disorder, he made light of any danger from the effluvia, but ascribed it to the metals swallowed with their food by slovenly workmen who went to their meals after handling the metal without well washing their fingers, so that some of the metalline particles were taken off by their bread and eaten with it."

In this same letter he tells further of another experience with lead. "In America I have often observed that on the roofs of our shingled houses, where moss is apt to grow in northern exposures, if there is anything on the roof painted with white lead—there is constantly a streak on the shingles from such paint down to the eaves, on which no moss will grow, but the wood remains constantly clean and free from it. We seldom drink rain water that falls on our houses, and if we did, perhaps the small quantity of lead descending from such paint might not be sufficient to produce any sensible ill effect on our bodies. But I have been told of a case in Europe where a whole family was afflicted with what we call the dry belly-ache, of colica Pictonum, by drinking rain water. . . . On another occasion I had the curiosity to examine the list of names of patients afflicted with the malady and found they were all of trades that, some way or other, use and work in lead.

" . . . This, my dear friend, is all I can at present recollect on the subject. You will see by it that the opinion of this mischievous effect from lead is at least above sixty years old, and you will observe with concern how long a useful truth may be known and exist before it is generally received and practised on."

The common cold was a favorite topic of Franklin's, and many consider his writing on this subject his nearest approach to a real medical article. He had very sensible views even though they were not accepted in his day. He repeatedly stated that colds were caught by being in close, unventilated rooms in which there were other people who were affected. He thought damp clothes might cause colds, but that clothes wet with sea water would not, because, as he says, no clothes could be as wet as water itself and one did not catch cold while bathing or

swimming. A few of his letters might be given to support his views.

" . . . I have read that a man, hired by a physician to stand by way of experiment in the open air naked during a moist night, weighed near three pounds heavier in the morning. I have often observed myself, that, however thirsty I may have been on going into the water to swim, I am never so in the water. The imbibing skin pores, however, are very fine, perhaps fine enough in filtering to separate salt from water, for, though I have soaked by swimming, when a boy, several hours in the day for several days successively in salt water, I have never found my blood and juices salted by that means, so as to make me thirsty or feel a salt taste in my mouth; and it is remarkable, that the flesh of sea fish, though in salt water is not salt.

"Hence I imagine, that, if people at sea, distressed by thirst when their fresh water is unfortunately spent, would make bathing tubs of their empty water casks, and filling them with salt water, sit in them an hour or two each day, they might be greatly relieved. Perhaps keeping their clothes constantly wet might have an almost equal effect, and this without danger of catching cold. Men do not catch cold by wet clothes at sea. Damp, but not wet linen, may possibly give colds, but no one catches cold by bathing and no clothes can be wetter than water itself. Why damp clothes should then occasion colds is a curious question, the discussion of which I reserve for a future letter. . . . ."

Another letter to Miss Stevenson in June 27, 1769, continues the above discussion. " . . . I take this opportunity to send you also, a late paper, containing a melancholy account of the distresses of some seamen. You will observe in it the advantages they received from wearing their clothes constantly wet with salt water, under the total want of fresh water to drink. . . . I need not point out to you an observation in favor of our doctrine, that you will make on reading this paper, that, having little to eat, these people in wet clothes day and night caught no cold. . . ."

Franklin never wrote the promised paper on colds, but from his "Preparatory notes and Hints for Writing a Paper concerning what is Called Catching Colds," we can form a very clear conception of what the paper would have contained. A few statements from these notes might be of interest here:

"*Definition of a cold.* It is a siziness and thickness of the blood, whereby the smaller vessels are obstructed, and the perspirable matter retained, which being retained offends both by its quantity and quality; by quantity as it over fills the vessels; and by quality as part of it is acrid, and being retained produces coughs and sneezes by irritation.

"Present remedies for a cold should be warming, diluting and bracing.

"With some Mucous Matter the nose is sometimes almost stopped and must be cleared by strong blowing. In the windpipe and on the lungs it gathers and is impacted so as sometimes to induce a continual coughing and hawking to discharge it. It is not easily discharged but remains long adhering to the lungs, it corrupts and inflames the part with which it is in contact and a partial putrefaction begins to take place, hence consumption. Part of the corrupted matter, absorbed again by vessels and mixed with the blood, occasions hectic fevers."

In a letter to Benjamin Rush in 1773, we find the following reference to colds, " . . . I shall communicate your judicious remark relating to the septic quality of the air transpired by patients in putrid diseases, to my friend, Dr. Priestly. I hope that after having discovered the benefit of fresh and cool air applied to the sick, people will begin to suspect that possibly it may do no harm to the well. I have not seen Dr. Cullen's book, but am glad to hear that he speaks of catarrhs or colds by contagion. I have been long satisfied that besides the general colds now termed influenzas, (which may possibly spread by contagion as well as by a particular quality of the air), people often catch cold from one another when shut up together in close rooms and coaches, and when sitting near and conversing so as to breathe in each other's transpiration; the disorder being in a certain state. . . . From these causes, but more from too full living, with too little exercise, proceed in my opinion most of the disorders which for about one hundred and fifty years past the English have called colds."

Dr. Franklin discussed many other medical subjects with his friends. He wrote

a very good letter on the heat of the blood and its causes. He also remarked that bathing or sponging with water or spirits would reduce the temperature by evaporation in fevers. Sleep, deafness, sea sickness, constipation, diarrhea, all engaged his attention. His observations on gout, which were personal, are extremely interesting, shrewd, and exact. He makes mention of this malady in many of his letters, and gives his methods of treating it. In 1780 he wrote a dialogue between himself and the gout. A glimpse at its beginning will show the type of paper it was:

Franklin: Eh! Oh! What have I done to merit these cruel sufferings?

Gout: Many things. You have ate and drank too freely, and too much indulged those legs of yours in their indolence.

Franklin: Who is it that accuses me?

Gout: It is I, even I, the Gout.

Franklin: What! my enemy in person?

Gout: No, not your enemy.

Franklin: I repeat it; my enemy; for you would not only torment my body to death, but ruin my good name; you reproach me as a glutton and a tippler; now all the world, that knows me, will allow that I am neither the one or the other.

Gout: The world may think as it pleases, it is always very complaisant to itself, and sometimes to its friends; but I very well know that the quantity of meat and drink proper for a man, who takes a reasonable degree of exercise, would be too much for another, who never takes any. . . ."

Many times Franklin mentions the use of various drugs in disease, but an attitude of skepticism of empirical remedies is very obvious. He treated nervous disorders by electricity, a practice which became known as Franklinism; but even in this he gives a very conservative estimate of its true value. On this subject he was often consulted, and called upon for treatments. He also was interested in vital statistics, particularly in relation to the death rate of foundlings and among children not nursed at the breast by their own mothers.

Still other medical subjects recorded in his letters to his friends are cold baths, fresh air, fever and ague, hernia, and stone in the bladder, a malady from which he suffered. It was his ability and knowledge in everything pertaining to medicine that led to his appointment by the King of France to a commission, which investigated Mesmer, and it was Franklin who wrote the report.

Many of Dr. Franklin's friends, with whom he was in intimate contact on the Continent and in America, were medical men. He was made a member of their societies, and was considered by many people a physician. In closing let me quote the recent writing of William Pepper: "It is interesting to speculate upon the kind of a physician Franklin would have made, and I believe all will agree with me, in feeling that with his great common sense, his so pleasing personality, his wonderfully wide knowledge, his extraordinary tact, his way of getting what he wanted, his ability to make friends, his insight into human character, his love of investigation, and in fact everything that goes to make up the truely big man in the medical profession, he would, had he devoted himself to medicine almost exclusively, now be considered one of the greatest physicians of our country. Well indeed, even as it is, did he merit the title of Doctor of Medicine, and it is our loss that we can claim him only as a sort of adopted father of the profession."

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Commissioner
LANSING, MICHIGAN

TYPHOID FEVER IN MICHIGAN

The general trend of the incidence of typhoid fever in this country has been almost constantly a decline for quite a few years. In Michigan the death rate from this cause in 1900 was 34 per 100,000 population. The decline in Michigan from that time has also been almost continuous with a few slight breaks in the curve.

In 1929 the Michigan typhoid death rate was 1.7; in 1930 it was 1.8. The cases reported in 1929 were 310 or a rate of 6.4; the number of reported cases in 1930 was 504 or a rate of 10.4. Thus the increase in the number of reported cases in 1930 over that of 1929 was greater than the increase in the death rate. This factor is an indication that a larger percentage of the cases occurring were reported in 1930 than in 1929. It is generally accepted that the case fatality rate of typhoid in any large number of cases runs quite uniformly at about 10 per cent. That is, there actually occur about ten cases for every reported death. If this be so, we had, in 1929, 38 per cent of the actual cases and in 1930 about 58 per cent reported.

The great reduction during the last thirty years in the amount of typhoid has been due in large part to improvement of city water supplies and in a somewhat lesser degree to pasteurization of milk. Other factors, of course, have played their parts. There is still some room for improvement in some of our public water supplies and there is more room for improvement in our milk supplies. Nevertheless, there is a tendency to a flattening of the downward curve of typhoid incidence. That which is left is more endemic or small outbreaks than large epidemics. It is more rural than urban. It is due more to the carrier or the missed case that infects a small circle of relatives or neighbors through handling of food, contamination of a private water supply, or a small raw milk supply.

In determining the source of a typhoid case it is not enough to conclude that it is due to well water which has been shown by laboratory test to contain gas-forming organisms. Typhoid does not originate in water or milk. The question remains *who* is the source from which the water, milk or food was contaminated. The problem is to find the case or the carrier responsible.

The Michigan Department of Health is endeavoring (1) to bring its list of known typhoid carriers just as near up to date and complete as possible; (2) to have all cases reported; (3) to release cases from isolation only after two specimens of urine and stools negative for typhoid bacilli. It follows of course that carriers should be properly instructed and observed so that they will not endanger the public by careless habits or handling of food; that cases will be properly cared for as to spread of infection; and that typhoid immunization will be carried out for those exposed or for vacationists and others liable to be exposed or infected.

The success in such a campaign is dependent almost entirely on the coöperation of local health officers and practicing physicians. Let us see that far more than 58 per cent of our probable cases is reported this year; redouble our precautions in handling of cases; release only after at least two negative specimens; look out for the carrier; immunize more often. The peak of the yearly incidence of typhoid is usually in August and September. There is still a chance to prevent many cases and deaths this year.

C. D. B.

SUMMER RESORT INSPECTION

With the arrival of the vacation season, the subject of summer resorts assumes its annual significance. A fairly comprehensive picture of the situation in Michigan has been given by the intensive inspection program carried on by the Michigan Department of Health for the past two years, comprehensive at least from the standpoint of sanitation.

Seventy-six counties were entirely covered by resort inspectors during the summer of 1930; three counties, Lake, Osceola and Clare, were partly covered; and in four counties, Gladwin, Arenac, Shiawassee and Wayne, no work was done. The shortness of the resort season and the long distance to

be travelled make difficult the completion of the program. Work was started on June 23 and finished on August 30. A total of 1,907 resorts were visited and 1,779 water samples were collected.

Until the summer of 1929, data on the location of resorts were both incomplete and inaccurate. On the basis of the fragmentary figures that were available, the state was divided into six districts and an inspector assigned to each district. Each man did all the work in his district, including the inspection of milk supplies. Experience of 1929 showed that the boundaries of the districts should be changed somewhat, but in general the divisions were adhered to, in 1930. It was decided to have five inspectors instead of six, and to add two dairy inspectors to the staff. This made possible the covering of more territory than was included in the inspection of 1929, and the more thorough inspecting of milk supplies. One result of the more rigid investigation of dairies was a lowering in the rating of some of the resorts, a fact that occasioned considerable explaining.

The progress of resort inspection since it was first started in 1913 is shown in the following brief tabulation of inspections:

Year	Resort	Counties
1913	77	11
1916	173	29
1917	48	15
1920	59	12
1921	134	10
1922	152	15
1928	225	24
1929	1,663	68
1930	1,907	76

The rating of the resorts in 1930 follows:

Type	Ratings					Total
	A	B	C	D and under	Not rated	
Amusement Resorts	35	82	85	99	78	379
Clubs	16	17	8	6	19	66
Community Resorts	47	134	110	100	228	619
Camp Fire Girls Camps	4	2	0	1	0	7
Boy Scout Camps	19	13	7	4	9	52
Girl Scout Camps	7	4	2	0	0	13
Hotels	72	145	85	48	20	370
Profit Camp	19	23	7	1	7	57
Tourist Camps	36	52	67	66	22	243
Welfare Camps	20	25	8	5	5	63
Y. M. C. A. Camps	7	8	7	1	3	26
Y. W. C. A. Camps	5	5	1	1	0	12
Totals	287	510	387	332	391	1907

DIPHTHERIA STUDY AT LAPEER

Working with Dr. R. L. Dixon and the staff of the Michigan Home and Training School, investigators from the Laboratory of the Michigan Department of Health have been for the last month checking up on the susceptibility of the children in the school to diphtheria. In 1921 all residents at the institution were tested for susceptibility and immunized with toxin-antitoxin mixture. As the population is relatively permanent, this eleventh year check-up is returning some very valuable information about diphtheria immunization in general. Questions of duration of immunity, the value of the Schick in testing susceptibility and the question of carriers in an immunized population are all receiving the attention of the investigators.

The report of this study will answer many questions that are constantly being asked. A final report will be available some time during the summer.

C. C. Y.

CHILD HYGIENE ACTIVITIES

Arrangements have been completed in Grand Traverse County by Esther Nash, R.N., and Annette Fox, R.N., for a series of Women's Classes to be conducted by Dr. Muriel Case and Miss Helen Linn.

Women's Classes in Oceana County, begun May 4, have been in charge of Dr. Ida M. Alexander, with Miss Linn assisting her.

Child Care Classes in Isabella and Clare Counties, carried on by Bertha Cooper, R.N., have been completed and Miss Cooper has begun a breast feeding campaign in Clare County.

Sylvia Krejci, R.N., for the past eight

years a member of the staff of the Bureau of Child Hygiene and Public Health Nursing, has resigned and has returned to her home in Iowa. Miss Krejci began work with the Health Department as nurse with the infant clinic, which was part of a traveling health institute, later discontinued. Miss Krejci has also conducted Child Care Classes and breast feeding campaigns and has carried on highly successful prenatal nursing services in Grand Traverse, Clinton, Ionia and Mason Counties.

The Child Care Classes taught by Caroline Hollenbeck, R.N., in St. Clair County, have been finished. Eaton County is to have the services of Miss Hollenbeck to carry on an infant and prenatal program.

L. R. S.

TRAINING PROSPECTIVE RURAL TEACHERS

The contribution of the Michigan Department of Health to the training of this year's group of 1,258 prospective rural teachers was completed on June 3 when the last of the special lectures on applied hygiene was given before the forty-eighth county normal training class. This closed the series of six lecture-demonstrations carried on since last October by a staff of six speakers, four from the Department of Health and two from the Department of Public Instruction.

A short course in hygiene has been required for years in the fifty county normal training classes in the state. To supplement this course and to make clearer its application to rural school situations, the Michigan Department of Health began a series of lectures in 1928. This was so well received that it was continued in 1929, and in 1930 it was expanded to take in representatives from the Department of Public Instruction.

Each training class received six lectures given, one each week, for six successive weeks. The essentials of personal, mental and social hygiene, prevention of communicable diseases, health inspection of pupils, mouth health, organized play periods, the school health program and visual aids in teaching health were the topics discussed. Material presented was directly applicable to rural schools and was demonstrated whenever possible.

"Reason becomes merely an organ that has been developed by man's effort to adapt himself to his environment and is essentially related to his struggle for existence as is the speed of the deer or the scent of the beast of prey."

—Christopher Dawson.

OF GENERAL MEDICAL AND SURGICAL INTEREST

PRESENT CONSIDERATION AND CARE OF COLON

John A. Lichty, Clifton Springs, N. Y., calls attention to those functional disturbances of the large bowel which are frequently the cause of considerable concern to the patient and annoyance to the attending physician. Among the functional disturbances of the bowels are certain irregularities due to an atonic condition at times or, again, to a spastic condition of the colon. With these disturbances of motility there are also secondary disturbances, and these together may gradually develop a mild irritative condition of the mucous membrane, with a production of stringy mucus, ordinarily called mucous colitis, and attributed to a neurogenic origin. There may gradually develop a more or less catarrhal condition with a production of flakes or clumps and strings of mucus containing innumerable leukocytes. Others of these functional disturbances are dilatation and sagging of certain portions of the colon, due either to congenital defects or to developmental changes. On account of the attempt at a compensatory restoration of function, extraperitoneal folds are formed. Also on account of continual traumatic insult there may develop weblike adhesions. With all these disturbances which may take place in or about the colon, the patient almost invariably develops a certain degree of invalidism characterized by psychic and neurotic symptoms. Other symptoms more constant and probably more significant are irregularity of the bowels, such as constipation and occasionally diarrhea, an accumulation of gas in the abdomen, producing an annoying borborygmus, irritation and soreness in the course of the colon, and an occasional pain and bearing down sensation, especially in the lower part of the abdomen. The pain may be very severe, especially before there is a stool, usually consisting mostly of mucus. The pain may occur suddenly and be cramplike in character, mimicking acute appendicitis, gallstone attacks, renal colic or duodenal ulcer. Before undertaking the treatment of these patients with chronic disturbance of the colon, one should obtain a certain concept of the state of the nervous system. This is accomplished largely through a painstaking, careful history. Also the disturbances of the secretory activities of the alimentary tract should be known. Such information as is obtained from gastric analysis, duodenal drainage and examinations of the stools is helpful. It is desirable to make all these studies in a definite and concise order before the treatment is planned. Uncertainty on the part of the physician will soon lead to an unfortunate psychologic reaction on the part of the patient. Every effort should be made to overcome anxiety and nervous strain. The diet should be nutritious so as to maintain a normal, or somewhat higher than normal, body weight for a time. The diet should not be bulky, coarse and irritative when the case is first undertaken. In the early stage of the treatment, it is well to purée the vegetables and stew the fruits. Abundance of fat in the way of butter, cream and olive oil should be given. Irritating cathartics should be avoided; they are not necessary if fats and fluids are given in sufficient quantities. If medication is necessary, on account of constipation, it should be determined largely by the degree of spasticity of the bowels and the acid content of the gastric juice. Constipation with a spastic bowel and a high gastric acidity yields more readily to an alkaline laxative, such as magnesium oxide with the

addition of belladonna or its derivatives, whereas the atonic bowel with low gastric acidity will yield more readily to bitter laxatives, such as the cascara preparations with the addition of nux vomica and its derivatives. As the symptoms of the irritable colon disappear the diet should be changed by allowing more roughage and a more even balance of carbohydrates and fats. This will usually control the irregularity of the bowels that gives such concern. Frequently patients with an irritable or a sluggish colon will resort to large and repeated enemas. The natural condition of the colon, however, is to be more or less full, and any attempt to keep it empty by strong laxatives or large enemas or flushings is based on a misconception of the function of the colon and will be likely to cause harm. The colon should have the same consideration and care in relation to disease as any of the other viscera and should not receive any more abuse than any other organ when there seems to be a dysfunction.—Journal A. M. A.

CLINIC AS CENTER OF GRADUATE STUDY

Henry A. Christian, Boston, believes that the most potent postgraduate clinical instruction in the early period of the medical man's life is afforded by the internship and residentship in a well organized, efficiently run hospital. The medical school curriculum of today really is planned as a preparation for a hospital service. The most important influence of teachers in the clinical branches of medicine is not exerted within the medical school on medical students but within the clinic or hospital on recent graduates in medicine. The clinician's pupils or disciples are not the large body of his medical students but the small group of his interns or house officers and his residents. To these he imparts the discipline of his leadership. These he conducts in their learning. In the sense of graduate instruction in a university, the resident group form the clinician's seminar. Such a relationship is possible only in a clinic organized with a chief of service giving largely of his time and effort to the conduct of the clinic and at heart a teacher and investigator, in a clinic adequately staffed, provided with necessary laboratories capable of more than routine examinations, and peopled by not too many patients. The latter is important. The majority of American hospitals have too many patients in ratio to staff, and particularly in ratio to resident staff, for them to be significant centers for graduate study. No hospital will attain to the level of a genuine graduate school in clinical branches of medicine, unless it has enough patients to afford numerous examples of disease of many types and enough members of the resident staff, so that each patient may be studied thoroughly and not too hurriedly by one or several of them. A distinction needs to be made between the graduate study of a clinical branch of medicine and an apprenticeship in one of them. The latter is more analogous to what is known in medical circles as postgraduate study. That there is such a difference seems largely to be lost sight of at present. As in any other scheme of graduate instruction, leadership is far more important than material facilities, and it is in real leadership that clinics in this country are weakest. In a teaching clinic the leadership of the chief of service looms large in the success of the clinic in graduate instruction. It would seem an almost necessary qualification that the chief of a teaching clinic should have a broad grasp of the entire field of his clinical endeavor as well as a special knowledge of some particular subdivision of the field. He should be a clinician of wide experience and one steeped in the literature and lore of his domain in medicine. He should be familiar with the methods of investigation and have some accomplishment in investigation to his credit. In conclusion, the author emphasizes that the first concern of every hospital should be the best possible care of the patient. Nothing, however advantageous for the education of physicians or nurses, should be tolerated if it detracts in any way from the effectiveness of the care of the patient in the effort to mitigate his discomfort and to speed his recovery from his sickness. Those concerned primarily in the educational aspects of the clinic must have this constantly in mind.—Journal A. M. A.

SPONTANEOUS PNEUMOTHORAX

J. P. Palmer and Robert B. Taft, Charleston, S. C., report five cases of spontaneous pneumothorax that they observed in one clinic in a relatively short time. Although in most cases the collapse of the lung was complete, the symptoms were unusually mild and of less than the average duration. The most unusual feature is the fact that there were two cases in which there was a massive hemorrhage into the pleural cavity. In reviewing the literature there were no cases found in which there was an associated hemorrhage of this extent.—Journal A. M. A.

MENTAL HEALTH AS A NATIONAL PROBLEM

Ray Lyman Wilbur, Washington, D. C., states that public handling of the insane is necessary, but that present methods can be greatly improved. The present cost for the segregated care of the insane is enormous and it is evidently growing. While this is a most difficult medical problem, unfortunately much of it is handled through the police and the courts. To have the policeman instead of the doctor as the first contact of society with many of those in the early stages of insanity is deplorable. It is even worse when the first confinement of such a patient is in the jail rather than in the hospital bed. There should be united effort to care for mental cases along the best hospital and medical lines, and there should be as complete a release as possible from the meshes of the law which now are so difficult to escape. The former days of simple life are gone. By millions, people tramp the solid streets of our cities Their nervous systems are constantly under assault. The prevention of mental disorders can never be brought about by such processes as putting chlorine in the water of a city to eliminate typhoid. They are much more intricate and difficult but just as important. Prevention of mental conditions goes back to industrial organization, city planning, the handling of schools, the standards of living, the sanctity of the home, and a hundred other social mechanisms. The mental health of a nation depends on the brain fiber of its people. If one were handling such a question for animals, one would try to master it by controlled breeding. Just how bitter the lessons will have to be before one learns to meet human conditions in this way, no one can say. In summary, the author suggests that the mental health of a nation is its greatest asset. Mental hygiene is a vital part of preventive medicine. Medical students and physicians need more adequate training in psychiatry. There should be interns in every hospital for the care of the insane. The presence of the inquiring student would do more to advance pathology, increase autopsies and develop research in mental hospitals than any other factor. More of the research energy of the medical profession should be diverted into the difficult fields of psychology and psychiatry. Education of the public so that they will view mental diseases as they do other diseases is important. The handling and care of the mentally ill should be dealt with along medical rather than along legal lines.—Journal A. M. A.

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JULY, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

WALTER HULME SAWYER

Doctor Sawyer passed away from a heart attack while playing golf with his son, Tom, and two friends at the Hillsdale Country Club on the afternoon of April 22.

Walter Hulme Sawyer was born in Huron County, Ohio, seventy years ago. His parents had been prosperous but lost everything in the panic of '73, so that it was necessary for Walter to work summers in order to help defray the expenses of his education. He graduated from the Grass Lake (Michigan) High School with honors in 1880, and the Medical Department of the University in 1884. The record shows that he had a perfect mark in Anatomy. He was rewarded with an internship and often spoke of the busy year spent in the University Hospital. The Hospital was understaffed and the work was so arduous that at the end of the year he was not allowed to continue on account of the condition of his health. Soon after leaving the Hospital he settled in Hillsdale, where his health soon righted itself and where for almost forty-five years he was the best known and best beloved physician of his community.

Hillsdale is replete with anecodotes of the Doctor. Many years ago, long before the coming of antitoxin and when the operation for obstructive diphtheria was in its infancy, the Doctor made a long, cold drive in consultation, only to find his patient suffering from the dread complication. He was without instruments, but with his pocket knife he opened the trachea and with hairpins kept the passage open until he returned some hours later with a tracheotomy tube, with the gratifying result of relieving the condition.

Then, there is the story of the New York Central wreck in the railroad yards at Hillsdale, with the engineer pinned beneath an overturned engine, being scalded as well as crushed. At the risk of being severely burned, the Doctor crawled under the wreckage and, finding the engineer's leg injured beyond repair, rapidly amputated it and dragged him to safety. For years after he was known as the "Jackknife Surgeon."

What the people think most about was the Doctor's never failing friendliness—a nod, a smile, and a cheery word for everyone. There are many of the older people who still remember the old white horse "Billy," which the Doctor drove for many years. Billy had a trick of tossing his head that gave the appearance of nodding. This it was thought he learned from his master who bowed so courteously to everyone he met.

In 1888, Doctor Sawyer was married to Harriet B. Mitchell, a lovable, kindly gentlewoman whose loyal support and keen understanding of a physician's responsibilities helped greatly in a successful and happy partnership and in their lives of great community usefulness. Several years ago they presented the old family residence to the city as a library. This was but one of the many ways their joint influence was felt in the community. Two years ago Mrs. Sawyer passed away, her passing as peaceful and as

sudden as the Doctor's. Following Mrs. Sawyer's death, Thomas M., their only son, together with his wife and two young grandsons, went to live with the Doctor. This was a very happy association which continued until his death.

While Hillsdale County knew Doctor Sawyer as a family doctor, it also looked to him for guidance and leadership in practically every community enterprise. For thirty-two years he served on the School Board, and was a Trustee of Hillsdale College, which in 1926 conferred upon him the Degree of Doctor of Laws.

"Doctor Sawyer was first elected a Regent of the University of Michigan in 1905, and was three times successively re-elected, in 1913, 1921, and 1929. His twenty-five years of service as a Regent, the longest recorded in the history of the University, made him acquainted, as few others have been, with the institution's work in all its phases, with its problems, its personnel, and its relations to the State. His qualities of heart and mind well fitted him to utilize this knowledge for the benefit of the University of which he was a devoted alumnus. His clear vision pierced the essentials of a situation; his courageous honesty faced them; his good sense helped him and his colleagues to the solution; and his readiness to understand and sympathize with others, characteristic of the good physician, were invaluable in the personal dealings incidental to the transaction of University business. Through the quarter century of his regentship he retained the liberality and enthusiasm of youth, combined with a mature and sane judgment; new ideas did not repel him, if they were sound; and he was governed neither by hobbies nor by prejudices." (From Resolutions of Board of Regents.)

His work during the World War was that of Contract Surgeon for the Student Auxiliary Training Corps, and it was strenuous work, especially during the influenza epidemic of 1918, when it was day and night service, not only in caring for his boys but his patients throughout the county. The Red Cross commanded a great deal of his energy, and his office was used by the Draft Board, of which he was a member, for the examining of recruits from Hillsdale County.

While his outstanding public service was in his capacity as a Regent of the University, where the Medical School, University Hospital, and the Student Health Service benefited greatly through his special training, he also rendered very great service to the State Medical Society, which he served as Councilor for several years, and as President in 1913 and 1914. He was also a member of the State Board of Registration from 1898 until 1906.

In politics, Doctor Sawyer was an ardent Republican and served on the Republican State Central Committee from 1894 until 1898, but notwithstanding the many offices, political and otherwise, held by him, his qualities were more those of the statesman than the politician. The statesman is altruistic in all that pertains to civic and industrial life; the politician too often self-seeking, which Doctor Sawyer never was.

We have spoken of his capacity for making friends. An observation of the late Doctor C. B. Burr refers to his devoted friend in these words: "Sawyer had the spirit of a boy. I loved to have him drop in on me at any time, even when one may not have his house in order to receive company. I love that merry chuckle of a laugh." Burr and Sawyer were such devoted friends that mention of one to many who knew them both well will call to mind the other. They were attached to each other with that intimacy that makes such friendships most admirable. Both are gone.

As I write these lines, touching here and there an incident in the life of Doctor Sawyer, I cannot but realize how futile the best and most heartfelt appreciation of him must be. To those fortunate enough to know him, the message that he had passed on was, indeed, a sad one. To those who knew him but slightly, or not at all, one must create a picture of cheery sunshine, of hopefulness and confidence, of kindly helpfulness, of broad charity, of a very practical idealism, which combined to make him the ideal physician and whole-souled companion that he was. His was a sturdy manliness that found expression in the most enduring of friendships, and in those things that brought men together most happily—in bridge, and golf, and in hunting and fishing—he was the ideal companion. He loved life and delighted in comradeship.

Upon the occasion of his last visit with the writer, the Doctor was momentarily depressed when he described a chest pain from

which he suffered the day before during a golf game. While in this mood he remarked upon how quickly the memory of us fades and he seemed saddened by the thought. Those of us who have given more than passing thought to this realize, with a pang, perhaps, the inevitableness, as well as the wisdom of it. But in another and in a more vital sense men like Sawyer are never really forgotten. They live in the added courage which their cheery smile and firm handclasp have passed on to all with whom they come in contact, in the opportunities for better citizenship which their work has made possible, and through many ways of which there is no accounting or record. Those of us who knew and loved him are fully confident that the things this gallant gentleman lived for will never die.

In the envelope which contained his Will were found two clippings—"The House by the Side of the Road," and the following lines:

"Spare me from the bitterness, and the sharp passions of unguarded moments,
May I not forget that poverty and riches are of the spirit,
And although age and infirmity overtake me, and I come not within sight of the castle of my dreams,
Teach me to be thankful for life, and for time's olden memories that are good and sweet,
And may the evening's twilight find me gentle still."

James D. Bruce

ALDRED SCOTT WARTHIN

In the passing of Dr. Aldred Scott Warthin the medical profession of the State has lost one of its most distinguished members. It has been my pleasure to have known the doctor from his earliest connection with the University. He was then George Dock's assistant in clinical medicine. The class of '94 remembers very well how thoroughly he took us through Osler's Practice of Medicine. In one of the latest papers which he wrote, "Forty Years as a Clinical Pathologist," he tells how Dock and he developed a laboratory of clinical medicine and how this work, under the man who has inspired so many to do real things in medicine, started him in the development of a department of clinical pathology that is probably second to none in the world today. After three seasons in Vienna he became in '95 the practical head of the department of pathology. Shortly after his taking charge the Regents passed a rule that all surgical material received in the University hospital became the property of the pathological laboratory and must be sent there accompanied by the history of the case for diagnosis. Today records of over 150,000 cases are immediately available for comparative study. In this same paper his great regret is that not enough years were available to him for use of this material. In his first year Warthin worked alone, and aside from his teaching largely based on material brought from Vienna he had only 158 cases and 12 autopsies. Last year with a personnel of 24 in his department he handled 18,194 diagnostic cases and 401 autopsies. When he took charge if the surgeon had a report on the material sent to the pathologist within a week he was fortunate. In recent years all diagnoses are sent to the clinician by 12 o'clock of the day following the operation. He was never very enthusiastic about the frozen section method of diagnosis, which he limited to a very small field.

Warthin was a man of very decided opinions which were often far in advance of the times. He early recognized the part played by heredity in disease, particularly in the case of cancer; the importance of cardiovascular syphilis, the constitutional foundations of Graves' disease, toxic goiter, the rarity of the relation of gastric ulcer to carcinoma. His early conception of the neoplastic nature of chloroma, the leukemias and Hodgkin's Disease is well known. Nearly all of his positions on these mooted questions he had the pleasure of seeing generally adopted. To quote him again in this same article, "He who is convinced and waits patiently receives his reward." Later he says, "The only sad thing about it is the remaining span of life may be so short that other of one's advanced ideas cannot reach settlement." He had had warnings, the meaning of which he knew all too well, that his end was not far away.

His was the joy of doing work that he loved and of performing it well. The last lines of his "Creed of the Biologist" apply to this remarkable man. "He played the game of life squarely and according to the law."

G. E. McKean.

POLICIES DEFINED

A meeting of the Council of the Michigan State Medical Society was held on May 19. A verbatim report of this meeting, to which the attention of the reader is directed, appears in this number of the Journal, so that extended editorial comment will not be necessary. To the meeting a number of organizations which are concerned to a greater or less extent with public health (six in all) were invited to deliver brief addresses which in the main defined the scope and object of their work. Dr. C. C. Slemons, medical health officer of the State of Michigan, outlined the history as well as policy of the Michigan State Department of Health. He pointed out, among other things, the fact that his department aimed at assisting the medical profession, stating that the activities of the laboratory department were commensurate only with the demands that the medical profession made upon it.

Dr. Bernard W. Carey represented the Couzens Foundation. He said that the object was one of investigation of health conditions with particular reference to children; that the Foundation aimed at rendering a service which in no way interfered with the work of the medical profession. Considering the magnitude of the undertaking, it was unavoidable that certain conflicts with the profession may have at times arisen. He invited criticism and assured the Council that, where mistakes had been made in the way of encroachments in the field of medicine, he would be only too glad to see that such mistakes occurred as infrequently as possible in the future. He invited representation on the committee from the Michigan State Medical Society and was assured in turn by Dr. Corbus, Chairman of the Council, and by Dr. Stone, President of the Society, that a member of the profession to represent the Michigan State Medical Society would be appointed. In the absence of Dr. Stuart Pritchard of the Kellogg Foundation, Dr. Stone, President of the Michigan State Medical Society, described the aims and objects of that Foundation.

The Anti-Tuberculosis Association was sponsored by Dr. B. A. Shepard and Mr. Theodore Werle. The substance of Dr. Shepard's address was in effect that tuberculosis could never be conquered if left to the lung specialist. The tuberculous lesion must be apprehended in its incipiency and vigorous efforts put forth for a cure. This meant closer application on the part of the general practitioner who saw the majority of these cases in their early stages. Mr. Werle declared that the medical profession were the first social service workers and this function on the part of the profession could never be relinquished to the lay social worker, who must at most be an adjunct factor in the control of the disease. Dr. E. J. O'Brien, representing the State Sanatorium Commission, spoke on the same subject, emphasizing what he claimed a fact—that there was no such thing as chronic tuberculosis, that all tuberculosis was acute and that as an acute disease it demanded immediate and vigorous treatment. He minimized the employment of the usual physical methods of diagnosis and stressed use of the X-rays. Dr. O'Brien further claimed that tuberculosis was essentially a surgical disease and in his opinion physiological rest by means of collapsing the lung was the best method of treatment. He spoke of the inadequacy of State Sanatorium accommodation and deplored the fact that many hopeless cases were sent to occupy the limited number of beds, whereas curable cases, those with early lesions, were allowed to go without adequate treatment. Fully twenty per cent of the cases sent to the Sanatorium, according to Dr. O'Brien, did not have tuberculosis. The expense and inconvenience to the State and to this class of patients could have been avoided had X-ray examination of the chest been made. He advised some means whereby, in the more sparsely settled districts, portable X-ray apparatus might be employed as an aid in the diagnosis.

Dr. R. E. Patterson, President of the State Dental Society, represented that body. He said that the reports from the members of the dental profession were universally in favor of the work that was undertaken by the Couzens Foundation and mentioned in particular the researches of Dr. Bunting at the Dental School at Ann Arbor, who is making a special study of dental infections, and also the work of Dr. Samuel J. Lewis, who is making some extensive studies of bone development and dentition in children which is to cover a number of years. He expressed himself as highly gratified in hav-

ing an opportunity to ascertain the reaction of the medical profession towards the various foundations.

The Chairman read a newspaper clipping accompanied by a letter from a member of the medical profession of the State in which the doctor sought information in regard to the sending of a "load" of children from a certain county for tonsil operation at the University Hospital. The inference was that many of these cases might have been operated by local physicians. It was explained that the University Hospital did not invite such patients, that only through the examination and advice of a local doctor to the Probate Judge of the district would it be possible for patients to go to Ann Arbor and to be accepted for surgical or any other kind of treatment.

It is hoped that the reader will take the time to read the verbatim report, including the presentation of various organizations represented, together with the discussions, since a proper understanding on the part of those interested will go a long way to smooth out any difficulties that may arise.

TO CONTRIBUTORS

Apropos of our editorial in the June number of this Journal on the subject of writing medical papers a few suggestions are here made on the subject of proof reading. The galley proof is a long column of printed matter submitted for the author's revision. Assuming that the writer has exercised the utmost care in the preparation of his typewritten copy we will not expect any additions to or deletions from the paper after it is set up in galley form. The cost of typesetting is no small item and since additional charges are made for radical alterations after the matter is in type, all such changes may be avoided by greater care in the preparation of the original copy.

The proof reader connected with the publishing house, as a rule, has read and made corrections of the original proof, so that the proof sent to the author is a revision for the purpose of catching typographical errors that may have escaped the scrutiny of the professional proof reader. Proofs are also read by the editor, who endeavors to exercise particular care in checking over all corrections in the final page proofs.

Having received the galley proofs of an article the author should go over them carefully *at once*. A good rule to follow is to revise the proofs and mail them to the editor the same day they are received. As desirable as such promptness is in the chapters of books, it is much more important in periodic scientific or literary Journals which must appear on a certain day each week or month.

All corrections should be clearly made in ink on the margin of the galley proofs. The author should familiarize himself with the characters used universally in the correction of proofs. Since copy is now set by typesetting machines, the variety of possible errors is smaller than when type was set by hand.

When the author may find occasion to insert a word into the middle or near the beginning of a paragraph he should study to dispense with some other word of approximately the same number of letters; otherwise the insertion of a word may demand the resetting of almost the entire paragraph. The same care should be exercised in deleting words.

While the insertion of paragraphs or sentences or the elimination of sentences from the galley should be avoided, it is still permissible. To make such alterations in the page proofs would be an unpardonable sin, as it might necessitate altering the entire "make-up" of the publication. All of which goes to indicate the great pains that should go into the preparation of the original copy.

Proof-perfect articles are possible only after careful proof reading, going over the proofs several times. It is necessary to check up not only to see that all typographical errors have been corrected, but to see that in the process of making corrections no new errors have been made, for the insertion or deletion of a comma means the resetting of the entire line.

THE GREAT SILENT PROFESSION

According to a recent report of the Board of Trustees of the American Medical Association, there are approximately 2,500 contributions in the matter of scientific papers submitted for publication in the Journal of the American Medical Association in the course of a year. The scope of the Journal limits it to approximately 550 papers a year.

The capacity of state medical journals published once a month is of course much

smaller. The Journal of the Michigan State Medical Society in 1930 printed 120 contributed papers besides discussions and the other regular features that go to make up the Journal. The demand for space is becoming greater each year. The papers are for the most part of a high character. Some are returned to the writer on account of the great length, requiring as much space as should ordinarily be occupied by two papers. Never has the art of condensation in writing been more necessary than at present. As some one has facetiously remarked, to make an immortal address it is not necessary to make it eternal.

UNEMPLOYMENT AND THE MEDICAL PROFESSION

One of the most serious problems facing the medical profession today is that of unemployment. There is no profession or industry that is more affected by it. Not only does the burden of taking care of people of limited means and of no means at all fall upon the physician, but he has to contribute heavily as a taxpayer. The industrial cities of this State, particularly those whose expansion has depended upon two or three industries, are in a worse condition than those cities in which industries are more diversified. In the metropolis of the state the sum spent on caring for 45,000 destitute families during the past year, is said to amount to $20,000,000, to be met out of public taxation, which, owing to delinquent taxes, has shrunk to sixty per cent of the sum normally required to meet the current expenses of the city. The summer months will mean naturally a diminution in the amount spent in welfare work as industry gradually reabsorbs large numbers who were let out during the fall and winter. Detroit and Flint and other automobile centers have attracted workers from the whole world, with the result that the unemployment problem is more severe in these than in most other places.

People have been encouraged to leave the centers of unemployment and to return to their homes; approximately the sum of ten thousand dollars has been spent on transportation in one city alone. The young man and woman who have left the farm to come to the city with the lure of greater cash income would do well to return to the old home, if it be a farm where they with a little toil may be assured of a living.

Vast epidemics of unemployment with attendant want and discomfort are second only to epidemics of illness. The time has come when a remedy must be sought and it seems the only one is some form of unemployment insurance. As the situation is at present the actual taxpayer and the doctor bear an inordinate burden. An unemployment insurance plan should include the employer who has been able to expand his industry off the earnings of labor; it should also include the worker, who should contribute during his periods of employment, and the smallest part of the burden should fall upon the taxpayer. At present the taxpayer contributes everything, and industry, except in so far as industry is a taxpayer, very little. Some such scheme would be conducive to the worker's independence and self respect and enable him to meet his obligation with his physician as well as to meet other obligations.

VACATION

The time of year is again at hand when the majority of people look forward to that change in the year's routine which prevents "Jack from becoming a dull boy." The mind demands change, variety; not only does all work and no play make Jack a dull boy, but all play and no work has the effect of destroying his morale, as the nationwide unemployment demonstrates.

The ideal vacation is not one characterized by absolute passivity, but a period of time during which the mind is as fully occupied as when concerned with the daily concerns and duties. The mind is in no sense a vacuum. It must be concerned with something. Travel, particularly foreign travel, for those who can afford it, is an ideal way in which to spend the holidays inasmuch as it cuts a person off from his work and fills his days with new scenes and a new environment. For the physician a few weeks may be spent at some clinic where he can revise his medical lore, free from the anxiety and personal responsibility that go into the regular practice of medicine. But perhaps to get away from one's professional work entirely, even to the extent of not talking shop, is most desirable.

We feel, however, that he who depends

upon two weeks or a month in the summer for his recreation is not getting the most out of life. Recreation should be taken every day. The routine of one's daily life usually provides enough physical exercise so that the real recreation should be in the way of an intellectual change. The Italian historian, Machiavelli, had the right idea. "When evening has arrived I return home and go into my study. I pass into the antique courts of ancient men, where, welcomed lovingly by them, I feed upon the food which is my own, and for which I was born. Here I can speak with them without show, and can ask them the motive of their actions; and they respond to me by virtue of their humanity. For hours together the miseries of life no longer annoy me; I forget every vexation." Or as Cicero said, (for the older men in the profession only): "Hæc studia adolescentiam alunt, senectutem oblectant, secundas res ornant, adversis perfugium ac solatium præbent, delectant, domi, non impediunt foris pernoctant nobiscum, peregrinantur, rusticantur."

In taking this point of view we realize the busy practitioner cannot always seek seclusion after his day's work to the extent of having the whole evening to himself. Unfortunate, however, is the man who cannot find any time to explore that kingdom of books in which dwells the wisdom of the ages.

EDUCATION

Perhaps there is no other word capable of a greater variety of interpretations than the word education. Graham Wallas, the English economist, defines it as "a process by which human beings so acquire the knowledge and habits which constitute civilization as to be fitted to live well, both individually and in co-operation." This is certainly broad enough in its scope. We are accustomed to associate formal education with schools and colleges, often overlooking the fact that the greatest factor in our education is experience. We learn from our contact with others. As Wallas very aptly expresses it: "The function of teaching cannot be confined to professional teachers; civilization, although it is dependent on the economically organized work of the *'qualified'* teacher, is also dependent on the fact that the whole race are and must be *'unqualified'* teachers. We could not continue to exist in our present numbers unless mothers taught their babies from the moment of birth, unless brothers and sisters and husbands and wives, and neighbors and friends taught each other. Every employer and foreman, every housekeeping woman, every writer, thinker, artist, preacher, politician, doctor and policeman spends much of his time in teaching. In newspaper offices, theatres, debating societies, government departments, churches and chapels, libraries and factories much more effective intellectual stimulus and instruction may at any moment be going on than in the brick and stone buildings which are called schools and colleges."*

And the success of this all inclusive education depends upon the reaction of the individual. Nurture means a great deal more to some than to others.

"A very able physician once said to me, 'more than half of the work of the world is done by neurasthenics,' i.e., men who are easily fatigued can do, if allowed, as Darwin was, to take their time about it, an astonishing amount of useful work. This is largely true among the middle and professional classics. On the other hand, in nearly all decently paid manual occupations, a man must either do a full day's work or none at all; and some of the most tragic figures I have known have been intelligent and public spirited men, of the type well known in Revolutionary clubs and societies, who would have done quite well as part-time journalists or poets or professors but for whom as 'work shy' laborers no self-respecting way of life was possible."

—Graham Wallas in *Our Social Heritage.*

HIS FRIENDS!

"Do you want to know what I am doing? I devote myself to my friends, with whom I enjoy the most delightful intercourse. With them I shut myself in a corner, where I escape the windy crowd and either speak to them in sweet whispers or listen to their gentle views conversing with them as with myself. Can anything be more comfortable than this? They never hide their own secrets, yet they keep sacred whatever is intrusted to them. They never divulge abroad what we confide freely to their intimacy. When summoned they are at your side; when not summoned they do not intrude. When bidden they speak; when not bidden they are silent. They talk of what you wish, as much as you wish, as long as you wish. They utter no flattery, feign nothing, keep back nothing. They frankly show your faults, but slander no one, all that they say is either cheering or salutary. In prosperity they keep you modest, in affliction they console, they never change with fortune. They follow in all dangers, abiding with you even to the grave. Now that you may not miss the meaning of my metaphor, pray understand that all I have said about these friends to be meant of books, companionship with which has made me a truly happy man."

—Erasmus.

*Our Social Heritage. Graham Wallas.

DEATHS

DR. C. C. CLANCY

Dr. C. C. Clancy of Port Huron, President of the Port Huron Hospital Board, died at his home on May 19 at the age of seventy-two years. Although in poor health for a number of months Dr. Clancy continued his medical practice until the day before his death. He was a former President of the Michigan State Medical Society. He is survived by three sons, Gerald B. Clancy and Hugh C. Clancy of Port Huron and Joseph M. Clancy of Detroit. Dr. Clancy had practised his profession in Port Huron for forty-eight years, during which time he was actively identified with civic and community welfare work. He was an earnest worker in the movement to obtain a new hospital for Port Huron and lived to see his ambition in this regard brought to a successful conclusion.

Dr. Clancy was born in Ontario, where he attended public school in the town of Wallaceburg and high school in Chatham. He was a graduate of Assumption College, Sandwich, Ontario, as well as the medical department of Queen's University, Kingston, where he received his degree of Doctor of Medicine in 1883. He was a member of the school board as well as public library board of Port Huron and during the world war he was an examiner for St. Clair County. He was a member of the St. Clair County Medical Society as well as, for a number of years, President of the Society. Dr. Clancy's death marks the passing of a family physician who during his long practice had endeared himself to his city and community. The funeral services were held on the Friday following his death in St. Stephen's Catholic Church.

DR. ALDRED SCOTT WARTHIN

Aldred Scott Warthin, Professor of Pathology of the University of Michigan, died at his home in Ann Arbor on Saturday, May 23. Death was due to coronary thrombosis. He was born at Greensburg, Indiana, in 1866. He was educated at the University of Indiana, where he was graduated A.B. in 1888. He received his M.A. degree from the University of Michigan in 1890 and his M.D. degree, also from the University of Michigan, in 1891, and his Ph.D. degree in 1893. Dr. Warthin had done extensive post-graduate work in medicine in Vienna and Freiburg. He was married in 1900 to Dr. Katharine Angell of Chicago. Dr. Warthin was Professor of Pathology and director of the pathological laboratory of the medical department of the University of Michigan since 1903. He was President of the American Association of Pathologists and Bacteriologists in 1908 and President of the International Association of Medical Museums 1910-13. He was editor of the Annals of Clinical Medicine up to the time of his death. Dr. Warthin wrote extensively on his special subject, pathology. He was editor and translator of the tenth edition of Zeigler's General Pathology in 1903 as well as the eleventh edition in 1908. He had written over one thousand articles in medical journals and textbooks. His most important research was in the anatomy and pathology of the hemolymph glands and the pathology of diseases of the blood and blood forming organs, cardiac syphilis, latent syphilis, tuberculosis and toxic action of mustard gas.

Dr. Warthin was internationally noted as a teacher of pathology. While never at any time connected as a practising physician, with the Michigan State Medical Society, his influence in Michigan medicine as well as American medicine has been very great, when one considers the large number of physicians who have obtained their training in pathology either directly or indirectly from him. Dr. Warthin's interests were diversified. Whatever he wrote was done with a thoroughness that is not often met. His latest work (1931), The Physician of the Dance of Death, is a classic. His death removes from the University campus another of its noted scholars.

DR. JOSEPH H. HATHAWAY

Dr. Joseph H. Hathaway of Highland Park, instructor in anatomy at the University of Michigan, died in a Toronto Hospital, where he was operated upon for appendicitis on June 12. He became ill while on a visit, with his wife, to the home of her parents, at Toronto. Dr. Hathaway, who was forty-eight years old, was born in New York. He was a graduate of Harvard University. He taught in the medical school of Cornell University for several years, was an instructor at the University of Louisville, at Louisville, Ky., for four years, and was professor of anatomy at the Detroit College of Medicine for six years. He was appointed a member of the University of Michigan faculty a year ago. Dr. Hathaway had been honored by the American Medical Association for a series of brain dissections. He was a member of the American, Michigan State, and Wayne County Medical Associations and of the staff of Highland Park General Hospital. He was associated in private practice with Dr. Robert Foster, Highland Park. Dr. Hathaway leaves his wife and one son, Joseph Comstock Hathaway.

DR. FRED W. BAESLACK

Dr. Fred W. Baeslack of Detroit died at St. Joseph's Mercy Hospital of cerebral hemorrhage on June 19. Dr. Baeslack was 56 years old. He was born in Hohenstein, Germany, and came to the United States at the age of 16 years. He graduated from Amherst College in 1902 and pursued post-graduate work at Columbia, where he obtained his M.A. degree in 1905. He graduated in medicine from the University of Buffalo in 1910. Previous to engaging in practice in Detroit Dr. Baeslack was engaged in research work at Parke, Davis & Company. Dr. Baeslack was a thirty-second degree Mason and a member of the Kilwinning Lodge, Detroit. He was also a member of the Wayne County Medical Society, Michigan State Medical Society and the American Medical Association. For the past ten years he was assistant city physician in Detroit. He leaves his widow and one daughter who was graduated B.Sc. at the recent commencement at the University of Michigan.

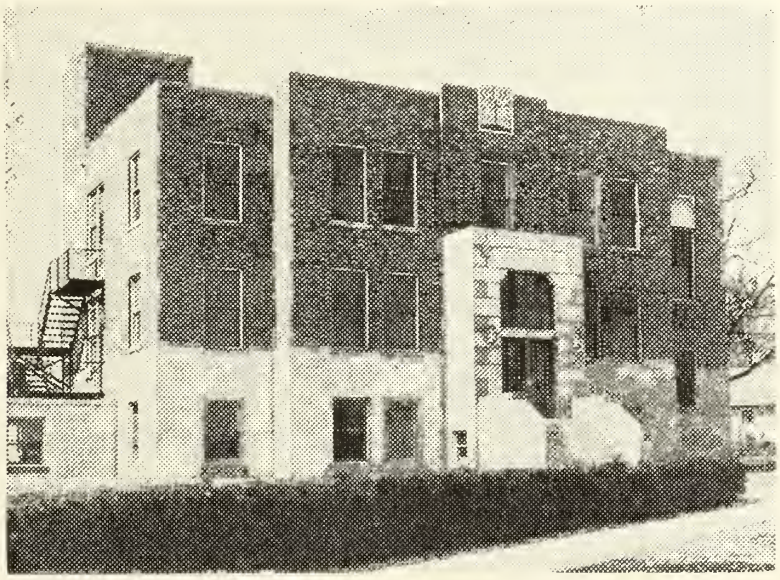
GENERAL NEWS AND ANNOUNCEMENTS

UPPER PENINSULA CHILDREN'S CLINIC

The Upper Peninsula Children's Clinic erected by the Children's Fund of Michigan, the foundation which was created by a gift of Senator James Couzens two years ago, was dedicated on June 11. Among those present who spoke at the dedication ceremonies were Governor Wilber M. Brucker, Rt. Rev. Monsignor H. A. Buchholtz, chancellor of the Catholic diocese of Marquette; William J. Norton, of Detroit, vice-president of the children's fund; Dr. Hugo A. Freund, of Detroit, president of the children's fund; Harlow A. Clark of Marquette, and

Alexander G. Ruthven, president of the University of Michigan. This new clinic will be the medical center for children for the Upper Peninsula. Post-Graduate courses in pediatrics will be given to doctors of the Upper Peninsula and children's clinics will be conducted from time to time.

The building itself is a three-story brick structure. As the illustration shows, it is devoid of unnecessary ornaments. There are thirty rooms, including an ampitheater capable of seating seventy-five persons. The clinic building was built on land belonging to and adjoining St. Luke's Hospital, to which it is connected by a brick passageway. The clinic will be used for examination purposes only. Any necessary hospitalization will be in St. Luke's Hospital. The cost of the building and power plant is $100,000.



Upper Peninsula Children's Clinic, Marquette, Michigan

DETROIT COLLEGE OF MEDICINE

The sixty-first annual reunion of the Detroit College of Medicine and Surgery was held on June 18 at the Hotel Statler, when about 300 alumni attended the annual dinner. Dr. C. G. Jennings of Detroit, the oldest living graduate of the College, was made honorary president. Dr. Jennings graduated with the class of 1879. The newly elected officers were: President, Dr. Clarence Eisman of the class of 1912; vice-president, Dr. Floyd Summerville of Oil City, Pa.; Secretary-Treasurer, Volney Butler. Drs. Clarence Owen and George Sewell were elected to the executive committee and Dr. Andrew P. Biddle was chosen as trustee.

The dinner was followed by a program, in which the retiring president, Dr. Clarke D. Brooks, acted as toastmaster. Edgar A. Guest, the Free Press poet, was the principal speaker. Addresses were also made by Dr. C. C. Slemons, Commissioner of Health of the State of Michigan, Dr. Burt R. Shurly of the class of 1882, Dr. Angus McLean, Dr. W. H. MacCracken, dean of the College, and Dr. J. M. Robb, president of the Wayne County Medical Society. The graduating class of the Detroit College of Medicine and Surgery was elected as members of the alumni organization. The arrangements of the meeting were in charge of Dr. B. H. Larsson.

The post-graduate courses given at Detroit by the Department of Post-Graduate Medicine of the University of Michigan have proved to be very popular. Among those who registered for the June, 1931, course are the following: Drs. C. H. Clausen, Detroit; Chas. W. Courville, Detroit; E. G. Schaiberger, Saginaw; Clarence E. Toshach, Saginaw; Arnold Strauss, Lansing; Vincent J. Turcotte, Detroit; L. L. Wittenberg, Detroit; Geo. S. Foden, Detroit; H. J. Prall, Lansing; J. J. Woods, Ypsilanti; Hazel R. Prentice, Kalamazoo; R. T. Fuller, Kalamazoo; E. H. Beernink, Grand Haven; Earl F. Lutz, Detroit; Harry Lieffers, Grand Rapids; Louis J. Bailey, Detroit; A. B. Walker, Wyandotte; M. J. Budge, Ithaca; Arthur J. Griffith, Detroit; A. M. Watson, Orion; F. W. Lee, Fairview; C. W. McColl, Wyandotte; Effie Arnold, Detroit; J. A. Miller, Detroit; W. E. Hopkins, Summit Station, Ohio; L. H. Darling, Lansing; L. Fairbanks, Luther; Neil A. Gates, Ann Arbor; Geo. D. Lowry, Department of Student Health, Ohio Wesleyan University, Delaware, Ohio; G. I. Goodrich, Dover, Ohio; H. W. Dierksheide, Painesville, Ohio; David M. Kane, Sturgis, Michigan; Viola M. Young, Detroit; Marian E. Parker, Kalamazoo; H. W. Nelles, Toledo, Ohio; Edward M. Vardon, Detroit; William S. Armour, Birmingham, Alabama; O. H. Gillette, Grand Rapids; C. P. Clark, Flint; Robert S. Drews, Detroit; W. J. Wall, Davison, Michigan; A. R. Callander, Delaware, Ohio; G. R. Beck, Detroit; Susanne M. Sanderson, Detroit; H. H. Harris, Detroit; P. H. Kennedy, Youngstown, Ohio; H. Albrecht, Detroit; J. G. Maurer, Reese, Michigan; W. O. Allen, Detroit, and Wilbur S. Powell, Dayton, Ohio.

The honorary degree of D.Sc. was conferred upon Dr. Don M. Campbell, and also the degree of D.P.H. was conferred upon Dr. C. C. Slemons, Commissioner of Health of the State of Michigan, at the annual commencement exercises in connection with the Detroit City College, which took place on Thursday, June 18.

SOCIETY ACTIVITY

MONTHLY COMMENT

The August Journal will be the Pontiac Number, preliminary to our annual meeting in Pontiac on September 22, 23, and 24. The contents of that number will cause you to want to attend that session.

* * *

Do you know the scope, work and limitations of State Clinics, County Health Units, and Foundation Activities? If not, read the discussions in this issue. Do not condemn until you know.

* * *

Each month the endeavor is made to present in this section some comment on the subject of medical economics and public relations. These topics are lively subjects of comment by national, state and county officers. Every medical publication contains something thereon. The better comments are here reprinted. The purpose is to impart to the members the trend of events as well as the opinions and attitudes of medical and lay minds. Physicians of today cannot limit their readings to scientific subjects. There is need for a broadening mind and the giving heed to medical relations to the public and the state. Indifference will lead to a rude awakening on the part of the doctor who is unconcerned.

* * *

Your council is alert and active in behalf of the profession. It is concerned with the member's welfare and future. The present group of councilors is the most active body the Society has had in ten years. You are urged to discuss conditions with the Councilor of your district.

* * *

It would be remiss were the retirement from office of Dr. J. M. Robb, President of the Wayne County Medical Society, not noted. Dr. Robb's service was noteworthy. During his term as President-Elect and President he achieved a most commendable record. Ever alert, continuously active, always on the job for 730 days and many, many nights, with but one thought—the interests of Wayne County doctors—he did much for Wayne and more for Michigan. Retiring, he leaves the Wayne County Medical Society, as the fourth outstanding medical society in the country, in a most flourishing, aggressive and active condition. We congratulate Wayne County and express appreciation for his labor, sacrifice and the spirit of service he ever reflected. Would that every medical society had such a president. Our hopes are confident that his successor, Dr. Plaggemeyer, will "carry on." He, too, merits Wayne's undivided support.

* * *

"In the final analysis, the medical profession's principal hope for coming through this uncertain period with its professional ideals unshattered, its economic status secure, its initiative and ambition for scientific advancement unimpaired, and its zeal for unselfishly serving the sick public unquenched is a militant, united, harmonious and efficient organization, commanding the undivided loyalty of all reputable physicians, promoting the cause of scientific medicine, combating methods that would reduce the profession to the status of a trade, and defending the public against the unwholesome influences of quackery and fanciful theories."—Committee on Medical Economics, of the Ohio State Medical Association, May 1, 1931.

The above statement from Ohio imparts principles that may well be made topics for discussions at county meetings. There is urgent need for such undivided loyalty in every state. The promotion of personal or limited groups interests at the expense of and with total disregard of organizational programs is surely leading the profession to a point where we will be but a trade group.

* * *

Dr. H. Wellington Yates is the President-elect of the Wayne County Society. With the pace that has been set by Dr. Robb, now taken up by Dr. Plaggemeyer, Dr. Yates will be a capable successor. Dr. Yates holds the confidence and esteem not only of the profession of Wayne but also of the entire state.

DO YOU KNOW?

Within a few years certain new activities concerned with public health have been and are now being evidenced in Michigan. From time to time we have read in the press, about the Children's Fund (Couzens), the Kellogg Foundation, County Health Units, Michigan Tuberculosis Society Clinics and other similar organizations. We have noted their activities in different parts of the state. On several occasions representatives have met with Society officers and county societies and imparted features of their work. At no time, however, have we had a definite or

concrete statement of the policies of these organizations, their objectives or their programs of work. Their activities have extended and expanded. On the whole, with a few exceptions, the profession has commended and coöperated with the work. The Society has been willing to aid.

During the past five months we have noted increasing activity as programs became farther reaching. The State Tuberculosis Society requested the State Society and the Department of Post Graduate Medicine of the University to undertake establishing diagnostic clinics. The Children's Fund requested certain joint action. County Units invited advisory committees to be appointed by County Societies. Many inquiries and some complaints were being received. We were being pressed for an answer to the question: "Where is all this leading us to?"

Your officers and council were unable to formulate a dependable answer. We did not have all the facts. We were not informed as to the plans and ultimate objectives of these movements. We were not able to determine the doctor's part.

To obtain first hand and authentic information a special meeting of the council was called by the chairman. To this special meeting representatives of these organizations were invited. They were encouraged to outline in detail the work already instituted and to impart their future programs. It was purposed to then indicate such approval or objections as the profession's interests indicated and to then endeavor to outline a plan for the future whereby the profession might coöperate and advise in this health work. That meeting was held on May 19.

The discussion is contained in this issue. It is the Council's earnest desire that every member read these statements and so obtain personal information in order that you may know.

The Council took no definite action nor did it assume any specific position. The Council instructed the Secretary to publish the discussions in the Journal; to make an abstract of the discussion and send to officers of county societies with a request for discussion and expression of attitude; to send a questionnaire to the doctors in all the counties in which these movements are established; to compile the information obtained. The Council will then formulate a report and transmit the same to the House of Delegates for final action.

Do you know? If not, read the discussion contained in this issue. Send in your comments to the Secretary in order that they may be considered by the Council. Your Council is serving you. Help it better to do so.

LEGISLATION

The legislature adjourned May 22. We purposely omit general comment upon its legislative enactments. These have been well covered by the press of the state. This comment is concerned only with some of the health and medical legislation that was considered, or, better, presented. Detailed report and comment will be forthcoming from the Legislative Committee in its report to the House of Delegates.

The Osteopathic bill, giving all rights to practice medicine and surgery to osteopaths, introduced in the Senate, died in committee.

The Osteopath bill providing for three members on the Board of Registration died in committee.

The Chiropractic bill passed the House and died in the committee of the Senate.

The bill introduced in the Senate requiring court conviction before a license could be revoked died in committee.

The bill providing that the membership of the Board of Registration be composed of ten members without regard to any school of medicine died in the House committee.

The bill making certain amendments to the present medical law, providing for annual registration and also licensing of specialists died in the committee of the House. It might have been reported out had objection been withdrawn from the Chiropractic bill. These amendments were favorably commended by many educators and editors. It is to be regretted that, because of misinformation, lack of knowledge as to existing conditions and not knowing the protection the bill accorded, many members saw fit to protest and object to its enactment. As was done in Wisconsin, so in Michigan, protest was filed by the State Homeopathic Association. Some personalities were injected even though the bill was one that emanated from the Attorney General and the Board of Registration and *not from any one individual.* Members were fearful, yet there was no need for fear, for no authority was con-

ferred on the Board which it did not already hold. It can be predicted that the next session of the legislature will enact a less desirable law, as evidenced by the resolution passed by both houses creating a lay commission charged to bring in a new bill covering all of the healing arts. The present law remains effective and the present Board can act because the Supreme Court has so ruled. It can continue to issue licenses. It can revoke licenses without first securing court convictions.

Osteopaths were given further recognition in the Crippled Children's Act, which provides that osteopaths may certify to examinations.

No funds were provided for enforcement of the medical act. Detection and prosecution of violators remain with county prosecutors and complaints will have to be sworn to by individuals. This unsatisfactory condition would have been remedied had the amendments carried.

The State Department of Health's budget was reduced. In consequence many of the splendid activities of this department will have to be curtailed and some abandoned during the next two years.

Compensation for industrial diseases was defeated.

There were a number of bills that included some medical examination or certification. At this writing there is no information as to their exact nature.

In general it may be said that we are in the same position we were in when the legislature convened. We are, however, due for new legislation. Its nature will be determined by a lay commission composed of three Senators and four Representatives.

It was a session characterized by much milling about and short sighted individualistic activity on the part of individual members and doctors. It evidenced strongly how lack of unity always spells defeat. Senator Upjohn deserves every praise and laudation. It was Dr. Upjohn, oftentimes alone, who bore the brunt and obstructed cult legislation. The profession is deeply indebted to him. Our grateful thanks is tendered to him for his labor in our behalf.

* * *

EXCERPT FROM JOURNAL OF THE HOUSE OF REPRESENTATIVES, MAY 20, 1931

Mr. Culver offered the following concurrent resolution:
House Concurrent Resolution No. 49.
A concurrent resolution providing for the appointment of a joint legislative commission to draft legislation covering the proper examination and licensing of the various branches of the Healing Art in the State of Michigan.

WHEREAS, The antipathy and rivalry of the various schools and methods practicing the Healing Art in the State of Michigan has reached a point where the representatives of the various schools seems to be unable to arrive at a definite solution of their problems through the regular channels of legislation; and

WHEREAS, The present State Board of Registration of Medicine is admitted to be illegally constituted, owing to the fact that the requirements of the present law in regard to the personnel of said Board have not been complied with for a number of years; and

WHEREAS, Entirely definite and different problems exist in regard to the various schools of Medicine and methods of practicing the Healing Art; therefore be it

RESOLVED by the House of Representatives (the Senate concurring), That a special commission, consisting of four members of the House of Representatives, to be appointed by the Speaker, and the members of the Senate, to be appointed by the President, be known as a special legislative committee on the Study and Adjustment of present and proposed Laws concerning the Practice of the Healing Art. Members of said Commission shall serve entirely without compensation or without expense to the State of Michigan for the purpose of preparing and submitting a plan and accompanying legislation to the next regular or special session of the Legislature; and be it further

RESOLVED, That such Commission be appointed to perform its duties without expense to the State of Michigan.

Pending the reference of the resolution to a committee, Mr. Culver moved that the rules be suspended and that the resolution be considered at this time.

The motion prevailed.

The question then being on the adoption of the resolution.

Mr. Culver demanded the yeas and nays.

The demand was seconded.

The resolution was then adopted, a majority of all the members present voting therefor, by yeas and nays, as follows:

Yeas, 90.

Nays, 0.

EXCERPT FROM JOURNAL OF THE SENATE, MAY 20, 1931

Referring to House Concurrent Resolution No. 49

The message informed the Senate that the House of Representatives had adopted the concurrent resolution; in which action the concurrence of the Senate was requested.

Pursuant to rule 59, the concurrent resolution was referred to the Committee on Rules and Resolutions.

EXCERPT FROM JOURNAL OF THE SENATE, MAY 22, 1931

Mr. Horton submitted the following report:

The Committee on Rules and Resolutions respectively reports back to the Senate the following entitled concurrent resolution, without amendment, and with the recommendation that the concurrent resolution be adopted:

House concurrent resolution No. 49.

A concurrent resolution providing for the appointment of a joint legislative commission to draft legislation covering the proper examination and licensing of the various branches of the Healing Art in the State of Michigan.

N. B. HORTON,
Chairman.

The report was accepted.

The concurrent resolution was considered and adopted.

Committee members named—Upjohn, Conlon, Lawson, Culver, Southworth, Darin, Jeffries.

A. M. A. PHILADELPHIA SESSION.

The Philadelphia annual session of the American Medical Association was characterized by being just one more annual meeting of the greatest medical organization in the world. And when we say one more annual meeting we intend that to mean the best annual medical meeting in the country, for such is the standard that has been established by this national body. Philadelphia with its history, its medical colleges and hospitals, its medical men and its new auditorium proved to be a most pleasing environment for this year's session. The new civic

auditorium, barely completed, was inaugurated by this annual meeting. It was ample to house all the sections, exhibits, scientific exhibits and registration under one roof in a most comfortable manner. It is a beautiful, well ventilated building of which Philadelphia may be proud.

The House of Delegates completed its work in four sessions. Our members are referred to the *Journal of the A. M. A.* for the annual reports, of officers, trustees, councils and bureaus which reflect the year's achievements and that which the Association is accomplishing for the profession, scientific medicine and for the people. As was reported, the Association now has over 102,000 members.

No new activities were undertaken other than to extend the work of the National Legislative Committee and that of the Bureau of Medical Economics. The Council on Medical Education and Hospitals was directed to formulate the standards and qualifications that are deemed essential and which a doctor should meet ere he be considered qualified for recognition in the special fields of medicine. This was in a measure an endorsement of the proposed amendment to the Michigan medical practice act which sought to authorize the issuance of certificates to those who met a common standard for any medical specialty. It was recognized that the time is at hand for the setting of some such standard and certification and to terminate non-qualified individuals posing as specialists when they are deficient in specialist training. Several of the sections made similar recommendations to the House and endorsed the resolution introduced by Dr. Moll. The resolution introduced by Dr. Brook relative to fees for filling out insurance certificates was referred to the Bureau of Economics for investigation and report at the next annual meeting. The resolution introduced by Dr. Moll proclaiming that the American Medical Association stands and speaks for the profession in national medical affairs, the State Society in state affairs and the County Society in county affairs was unanimously adopted.

Michigan was represented by Drs. Brook, Moll, Gorsline and Luce. Dr. Shurley represented the section on oto-laryngology. When Michigan's fifth delegate failed to appear at the second session, Dr. A. W. Hornbogen, the alternate, was seated. Previous to this, at the first session, by reason of his years of service, the New York delegation moved that Dr. Hornbogen be accorded the privilege of the floor during the session. This is the first time that the House accorded such recognition and honor to any individual.

The scientific program was a most splendid one. The scientific exhibit was the largest and finest ever sponsored. We were pleased to note several splendid Michigan scientific exhibits. At the General Session, Dr. E. S. Judd was inducted into office and delivered a presidential address that dealt with pending medical problems.

At the last session of the House, Dr E. H. Cary of Dallas, Texas, was elected President-elect, Dr. West was re-elected Secretary, Dr. Austin Hayden re-elected Treasurer, Dr. F. C. Warnshuis, re-elected Speaker, Dr. A. E. Bulson, re-elected Vice-Speaker. New Orleans was selected as the city for the holding of the 1932 session.

This brief memorandum is not intended as a complete report of the annual meeting. It is intended to serve first as a notice to urge our members to turn to the *Journal of the A. M. A.* and read all the reports and details of the session and secondly to urge a compliance and observance of the policies and recommendations of the several Councils and Bureaus. A supplemental report will be made in greater detail by our Delegates at the Pontiac meeting.

MINUTES OF THE MEETING OF THE JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION, ANN ARBOR, JUNE 1, 1931

Present: President Ruthven, Chairman; Drs. Jackson, Huber, A. C. Thompson of Detroit, Rickert, Sundwall, Soller, Dempster, Lyons, Shackleton, Fisher, Henderson: Mr. A. W. Thompson of the State Department of Public Instruction, Miss Marjorie Delavan of the State Department of Health, Miss Olive Sewell of the Michigan State Nurses Association, and Mrs. B. Fletcher of the American Red Cross.

1. Minutes of the meeting held in Ann Arbor on January 22, 1931, were read and approved.

2. Report on Essay and Poster Contests. Dr. C. A. Fisher, Assistant Director of the Extension Division, reported that during the past year fewer high schools had taken part in this contest than during the previous year. It was suggested that this was due mainly to the fact that the majority of our public schools are at present overburdened with contests of various sorts. It was pointed out, also, that the Gorgas Memorial Fund is conducting an essay contest on health. At the conclusion of Dr. Fisher's report, the Secretary recommended that the contest program be discontinued for the present, the funds appropriated for this work to be used in carrying out the three-year educational program as described later.

3. Field work. Dr. Soller gave a report of the

field work during the past year, including a detailed account of the trip which he made recently to the schools in the northern part of the southern peninsula. On this trip he visited twenty-two schools. Of the twenty-two schools visited, twenty-one accepted without question the proposed health program for next year. Twenty of the twenty-one schools for which health education programs were arranged, expressed a desire to have the health program put on in coöperation with the State Health Course of Study.

4. Treasurer's report. Report of the Treasurer, Dr. Warnshuis of Grand Rapids, was read by Mr. Henderson. The following is a summary of the receipts and expenditures: Receipts, $4,096.85; expenditures, $1,776.93; balance on hand June 1, 1931, $2,319.92. The report as given in detail was accepted and placed on file.

5. Publicity Committee. Dr. Bruce, Chairman of the Publicity Committee, was unable to be present on account of illness. His report was read by Dr. Jackson.

6. The proposed three-year health education program. The President now called upon Dr. Henderson to give an outline of the proposed three-year health education plan. The salient features of this report were as follows: The Joint Committee on Public Health Education was organized in 1921. Its purpose, as stated in the slogan which appears on all publications, was "to present to the public the fundamental facts of modern scientific medicine for the purpose of building up sound public opinion relative to the questions of public and private health. It is concerned in bringing the truth to the people, not in supporting any school, sect, or theory of medical practice. It will send out teachers, not advocates." During the past ten years the activities of the Committee may be divided into two distinct stages. The first four years, that is, from 1921 to 1925, may be characterized as the organization stage. The second phase, from 1925 to 1931, was a period of experimentation, based largely upon the trial and error method. It is the opinion of the Secretary that the time has now arrived when we should engage in a more definite educational work, and to this end he proposed a tentative three-year educational program which includes the following distinctive features:

First, the educational work, including the organization of health programs for high schools and Parent-Teacher Associations, and such other administrative duties as may be associated with the program, is to be under the direction of Dr. C. A. Fisher. Dr. Fisher's acquaintanceship with the schools and the schoolmen of the State, and the fact also that he is Chairman of the Parent Education Committee of the State Parent-Teacher Association, fit him especially well for this administrative work.

Second, Dr. Soller will be assigned the field work which is to include personal contacts with local medical societies, the organization of courses, and the giving of lectures in connection with assignments made by Dr. Fisher.

Third, that phase of the work which has to do with the selection of a staff of lecturers will be in direct charge of Dr. Henderson. The task to which he proposes to direct his attention is to increase the number of speakers and to organize the same, both with reference to geographical distribution and speaking efficiency.

Fourth, this phase of the proposed program has to do with the preparation of a Lecture Outlines Library. This will include the preparation of lecture outlines mainly in the form of synopses of important subjects for presentation in connection with Parent-Teacher Association programs, and especially in connection with the State Health Course of Study program. The work is to be under the direction of the Outlines Committee, of which the Secretary is an ex-officio member. It is planned to have the Committee select some person, or persons, to assemble and arrange the material for the various outlines, after which the Outlines Committee will determine upon the final form of the material. In order to carry out this proposed plan for the building up of a Lecture Outlines Library, it was pointed out that certain funds would be necessary. It was suggested by the Secretary that the funds which heretofore have been allocated for carrying on the contest program, together with an additional sum sufficient to bring the amount to $500.00, be made available for the preparation and publication of outlines.

At this point Dr. Jackson read the following excerpt from a letter from Dr. Bruce, Chairman of the Outlines Committee: "I am much interested in your proposed three-year Health Education Program which involves an expenditure of about $500.00 annually for this period. The building up of a Lecture Outlines Library seems so necessary to the success of our lecture program that I am unqualifiedly favorable to it. As to the sources of the necessary funds for the undertaking, I suggest that the amount stated might be withdrawn from the Publicity Fund. I feel quite safe in recommending this for the first year at least, and do not believe it either advisable or necessary to call for further contributions from our group. Through the adding of twelve or fifteen lecture outlines a year, besides those now being done, you will soon develop resources which will be much appreciated by the doctors of the State who are so frequently called upon for addresses upon subjects with which they are unfamiliar."

After a brief discussion of the proposed three-year program, it was moved by Dr. Jackson and seconded by Dr. Shackleton that the program as outlined by the Secretary be approved and that $500.00 of the funds of the Joint Committee be allocated for this work.

7. Upon motion of Dr. Sundwall, it was voted to ask the Children's Fund of Michigan and the Kellogg Foundation to become members of the Joint Committee through officially appointed representatives.

8. It was moved that the next meeting of the Joint Committee be held in conjunction with the Medical Council.

9. The meeting adjourned.

W. D. Henderson, *Secretary.*

USE OF SPINAL ANESTHESIA IN UROLOGY

Arthur L. Chute, Boston (*Journal A. M. A.*, Jan. 10, 1931), never uses spinal anesthesia for kidney operations, but confines his use of it to operations on the lower part of the urinary tract. He says that there are a few contraindications to the use of spinal anesthesia. A very nervous or mentally unstable patient or one who is strongly prejudiced against its use rarely does well under it. He rarely uses spinal anesthesia in young persons. Besides the 840 times that he has made use of spinal anesthesia in prostatectomies he has made use of it many times for other operations on the lower urinary tract, such, for instance, as operations on bladder tumors, crushing stones, painful cystoscopies, fulgurations, closing suprapubic fistulas, as well as in a considerable number of urethrotomies, both internal and external, and in a few cases of urinary extravasation. Few complications were encountered.

REPORT OF PROCEEDINGS OF SPECIAL MEETING OF COUNCIL OF MICHIGAN MEDICAL SOCIETY, AND INVITED GUESTS, HELD AT THE HOTEL STATLER, DETROIT, MICHIGAN, TUESDAY MAY 19, 1931

The meeting was called to order at 1:30 o'clock P. M.

Dr. Corbus (Chairman): Gentlemen of the Council, and invited guests:

In the opinion of your chairman and the Executive Committee, there are certain matters presenting themselves of such importance as to justify calling of this special meeting of the Council. These matters are inter-related in that they concern various activities which are directed towards the improvement of the health and social conditions of the people of the state, activities in which we doctors are vitally interested, and necessitate a decision on our part as to what our official attitude in regard to them shall be.

As a foundation for a discussion it is important that we have a fuller knowledge of these activities as they exist today, and, so far as may be obtainable, the future plans and objectives. We are privileged to have with us the heads of several of the organizations that are behind these activities. I trust you will pardon a word or two of introduction before I call on these guests.

The end of the first hundred years of the Michigan State Medical Society came some little time before the war. During this period its activities were quite self centered. They were directed towards better fellowship, ironing out local differences, of which there were many, scientific improvement such as might be obtained by the reading of papers, and the discussion of cases in get-together meetings. All in all the activities were quite largely for the benefit of the individuals composing the society.

With the ending of the first hundred years of the society, we, for the first time as an organization, engaged in an activity which indicated that we felt that we had a true obligation to the community. This first activity was promoted by Dr. Victor Vaughan, who induced the Society to combine with other agencies to make a survey of the cases of tuberculosis in the state—the first social work, so far as I know, that had been undertaken. Since this time, and most particularly in the last eight or ten years, the Society has become more and more conscious that it has a distinct obligation to the public to do its part in what may be termed "social work." Particularly did we feel that we had a duty to the public to instruct them along both public health and personal health subjects.

A connection with the University and its Extension Department enabled us to meet a considerable number of the laity in groups. From this beginning came the Joint Committee on Public Health and Education.

Some years ago we made a survey of maternal mortality of the state, not an exhaustive survey, but enough to show that there was a great weakness in the satisfactory practice of obstetrics, and great need for instruction of the doctor himself. This survey intensified the feeling on the part of your officers and this council that there was great need for post-graduate work. It became very evident that the doctor who had come out of school reasonably well trained, frequently grew but little in professional ability, except as he learned from experience, and so we started, as you know, the Post-Graduate Clinics throughout the state, later to be combined with the Post-Graduate Department of the University, the establishment of which was, to no small extent, due to this Society.

With the help that we have obtained from the Couzens Foundation, we cover the state quite thoroughly today, bringing new things in medicine, and old things too, to the doctor in his home, hoping that we can bring him something that is worth while, and also hoping that we may stimulate him to go further.

Conditions are changing rapidly, and a situation which is interesting to students of social welfare throughout the country, is the availability of money set aside by philanthropic individuals for the improvement of the health of the public through definite health and educational activities. The activities of these splendid philanthropies are directed, in most instances, through Foundations, of which there are several in Michigan.

The executive committee of the council

feel that it is equally important to the profession of Michigan and to the Foundations, that there shall be coöperation and a degree of affiliation between them. What that affiliation shall be will depend, of course, on the opportunities that are given us by these Foundations and your attitude towards them. Certain it is that the Michigan State Medical Society is anxious to do its part in the improvement of the health of the people of this state. We are quite willing to make sacrifices to the cause, but the occasion should come as the result of intelligent study and should be justified by results. Among the profession there are those who have a certain concern about some of these activities. I fancy that a large part of this concern is due to a lack of knowledge of the purposes and the program of those directing them.

Not always has the profession been as helpful in the activities of the Department of Health of the State as might be desired. This is much less true today than it was some years ago. Here again it is important that there be a close interlocking of activities, and since in very recent years there have been some very marked changes in the procedure of reaching the people through the Department of Health—and I particularly refer now to the "County Units"—it is well that the plans of the Department of Health which are now in existence and which are proposed, be presented to us that we may know more about them, because, after all, as I said before, it is by close cooperation that we are going to give the most in health to the people of the state.

There will be also a discussion during the afternoon, in regard to the plans of the Anti-Tuberculosis Society to utilize the Post-Graduate Department of the University and the State Medical Society, in their clinical work. I might say, in reference to this particularly, that as a council our great ambition has been to educate the doctor, to make better doctors. We believe that in anti-tuberculosis work, and this might well be said of all medical work, there is no plan of education of the laity equal to the instruction that they can obtain from their home doctor. We believe, too, that the help that we can give to make the doctor efficient in the diagnosing and handling of his case is, perhaps, the greatest work that we can do.

To these guests of ours let me say that we are here because we want to know more of what is going on now. We want to know something of the plans for the future. We want to know how we can best coöperate with you with the common aim to bring better health and better social conditions to the people of this state.

Department of Health

Dr. Corbus (Chairman): Certain new activities of the Department of Health have been developed in the last few years, and I am now asking Dr. Slemons to tell us about them. Dr. Slemons.

ADDRESS BY DR. C. C. SLEMONS

STATE DEPARTMENT OF HEALTH
LANSING, MICHIGAN

Mr. Chairman, and members of the Council, and friends:

I wish to state at the onset that it is a pleasure to be with you this afternoon. The Michigan Department of Health, as you know, has been one of the outstanding state departments for a great many years. In fact, it was one of the first ones organized. As you know, I have represented this department for only a comparatively few months, and the work that is being done at the present time is work started by my predecessors in office. As far as I know, there has been no change in the policies or in the activities during the past year.

Your chairman, in introducing me, stated that I would discuss some of the new developments. I am very briefly going to take you over the entire activities of the Department. Do not get frightened, because I am not going to detain you very long. The public health story at the longest is a short one. With your permission, I shall briefly outline the activities of the Department and, following your chairman's letter to me, I will devote perhaps the longest part of what I have to say to you to the county health departments in Michigan.

First, I want to take you very briefly over the history of the Michigan Department of Health. It was first organized April 12, 1873. The members of the first board were Homer O. Hitchcock of Kalamazoo; Robert C. Kedzie of Lansing; Herman F. Lyster of Detroit; Zenas E. Bliss of Grand Rapids; Reverend Charles H. Brigham of Ann Arbor; and Reverend John S. Goodman of Saginaw.

In 1887 the first bulletin on typhoid fever

was published. In 1894 tuberculosis was made reportable. In 1907 the laboratory was established. In 1913 the first sanitary engineer was appointed, and supervision of water supplies and sewerage systems authorized by legislative enactment. In that connection, I wish to say to you that there has just passed the Legislature a bill whereby the plans for sewage disposal plants and waterworks will be presented to our engineering department before the same are installed. The present law, since the first enactment, brought these plans to us after many serious mistakes had been made throughout the state. We have been able to get through the present Legislature a bill whereby the plans are submitted to our engineering department before the work is started in the various communities, so that it will save a lot of expense and a lot of trouble to these communities throughout the state.

In 1915 a branch laboratory was established in the Upper Peninsula. In 1915 the Legislature appropriated $100,000 for a tuberculosis survey. In 1919 the State Board of Health was reorganized by act of Legislature. The State Department of Health, under the commissioner and advisory council, was established. Laboratory activities were reorganized and placed under the Bureau of Laboratories.

In 1919 intensive work in venereal disease control was instituted upon request of the Federal Government. In 1921 the Bureau of Venereal Diseases was abolished, and the reporting, law enforcement and clinical supervision was placed under the bureau of communicable diseases, and the educational activities enlarged to include all communicable diseases, and placed under the bureau of education.

In 1920 the Bureau of Child Hygiene and public health nursing was established. Provisions of the Sheppard-Towner act were accepted by Governor Groesbeck in 1922.

In 1921 the vital statistics records were transferred from the Secretary of State to the State Commissioner of Health.

In 1921 the State Commissioner of Health was authorized to purchase and manufacture biologics for the prevention and control of diphtheria.

In 1924 intensive field work in communicable disease control was placed under the bureau of epidemiology, and communicable disease records under the bureau of records and statistics.

In 1925 a branch laboratory was established in Grand Rapids. In 1925 the Bureau of mouth hygiene was organized.

In 1927 the bureau of industrial hygiene was organized; also the establishment of county health departments was authorized by the Legislature. The same year, the manufacture of biologics for control of all communicable diseases was authorized.

Your State Department of Health consists of the public health council, consisting of men with whom you are all acquainted: Dr. Hirschman of Detroit; Dr. Chalmers Lyons of Ann Arbor; Dr. Curry of Flint; Dr. Brucker of Lansing; Dr. Harkness of Houghton. You are familiar with the organization.

The Chairman, in his opening address, spoke about the plans and so on for county health departments. I wish to state at this time that plans for health activities are practically the same wherever they may be found. In your large cities, your smaller cities, your counties and your districts, the problem is the same. It is not different in one place than another, except that the more people you have, the more complicated the process. In other words, a human being is a human being, whether he is in Detroit, or up in Roscommon County. It doesn't make any difference, and he is entitled to the same protection. Your health program, wherever it is found, is along the same line. I believe what it does depends very largely upon the man you place in charge.

The objective of all health department practice is the control of preventable diseases and the securing of health for all the people. The first necessity to obtain this objective is full-time health service with adequate trained personnel for every community. I want to repeat that: The first necessity to obtain this objective is full-time health service with adequate trained personnel for every community. This organization will accomplish a reduction of maternal mortality, making motherhood safe in the United States; it will secure normal growth of body and mind for children; it will promote the health of adults; it will give an adequate supply of safe milk for every community; it will give an adequate supply of pure water for every community; and, lastly, it will give us the elimination of tubercu-

losis, typhoid fever, diphtheria and smallpox, because these communicable diseases should be eliminated with our present knowledge.

The Michigan Department of Health consists of 10 bureaus, 180 employees, and has a budget of approximately $500,000 per year. We do not control in any way our activities, the amount of work done. In other words, in most of our bureaus we have to do the work that is sent to us. For instance, we have the bureau of vital statistics. They have to take care of the work that is sent to them. We have our laboratories; and we do the work that is sent to us from the physicians of Michigan; we have our biologic plant, and we send out the material that the medical profession of Michigan asks for. And the engineering department, the same way. In other words, we do not control the amount of work that we have to do; that is in other hands. We do the work we are requested to do by the physicians of Michigan.

Our bureau of laboratories and biologics spends approximately one-half of our entire appropriation. It may be of interest to you to know that there are only eleven biologic plants in North America; there is one in Canada, one in Mexico, and nine in the United States. Of these nine in the United States, six are commercial, and three are state health department plants in the following states: Massachusetts, New York and Michigan. Not all of those commercial plants manufacture a full line of biologics. During the year 1930 our biologics plant sent out (and distributed) to the physicians of Michigan over $210,000 worth of biologics; it would have cost $210,000 at our lowest contract price. In other words, if we had gone out in the open market and bought these at the lowest contract price, it would have cost us over $210,000. If purchased by you people, by the doctors of Michigan, at the regular retail price, it would have cost over $1,000,000. I might state in passing that a package of diphtheria antitoxin that costs $10 in the retail drug-store, we manufacture for 87 cents.

Last year in our laboratories, we examined over 300,000 specimens.

In the Bureau of Records and Statistics, we took care of the records of over 100,000 births, 50,000 deaths, 30,000 marriages and 10,000 divorces.

There is the Bureau of Engineering, as I stated a moment ago, and their work is largely consultation and having to do with sewage disposal plants and municipal water supplies.

Another bureau is that of child hygiene and public health nursing. This was the bureau that carried on the maternal mortality survey that was made two or three years ago, with which all of you physicians are familiar. I think the workings of this bureau are known to all of you. Then, there is the bureau of epidemiology which has to do with the control of communicable diseases. The bureau of education is the bureau which gives out our material for the state. The bureau of mouth hygiene is in charge of Dr. Davis, and you are familiar with that. The bureau of industrial hygiene has been added to the list. Then we have the bureau of embalming. We also furnish in part an investigating officer for the State Medical Society, our Mr. Potter acting in the capacity of a police detective, and so on, arranging for prosecutions and so forth.

The department also arranges for speakers for medical meetings, especially on the post-graduate courses that are being held throughout the state; and the department has for several years been furnishing material for the State Journal.

The last bureau, and the most recent bureau, and the one that has had the greatest activity, is the bureau of rural hygiene. That is the bureau that has charge of organizing the county health departments. And, I judge that is one of the questions that you wish discussed rather fully here this afternoon. And we can discuss it fully, and do it quickly, because there is not very much to say about it, after all. I have brought this map. I have used it before. I brought it down, in order that you might have an exact idea of how much of the area of Michigan is today under what I call very good health department practice.

I stated to you at the start that one of the essentials for this organization is a competent personnel. Now, this area represents the area of four districts, sixteen counties that are in charge of the Children's Fund of Michigan. (Indicating on map.) These counties represent the counties that are supporting themselves with the aid of state subsidy and the help of the Rockefeller Foundation and the United States Public Health

Service. These two counties, Barry and Ontonagon, have been recently organized, but the work at the present time has not been started. Barry County starts the first of June, and I do not know the date that Ontonagon County will begin operations.

Oakland County, Genesee, Saginaw, Midland and Wexford were organized up to a year ago. Since last summer we have organized Isabella, Kent, Ottawa, Barry and Ontonagon.

The sad part of this situation to me is that there will be no further increase in this work during the next two years, for the reason that the Legislature refused to give the additional money we asked for. They gave us $30,000, and that is a $10,000 increase over two years ago. But, if you will notice, we have the ten counties taken care of right now. So that, for the next two-year period there will be no opportunity for further development of rural health work.

I wish to read to you the law, and it is very brief, governing the formation of county health units in Michigan.

"Section 1. The Board of Supervisors of any county in the state may provide for a county health department to be paid for out of the general funds of the county.

"Section 2. The plan of organization shall be approved by the State Health Commissioner.

"Section 3. The Health Commissioner shall be selected by the Board of Supervisors.

"Section 4. A health officer may be removed for incompetence, or misfeasance of office by the Board of Supervisors, or by the State Health Commissioner, after due hearing.

"Section 5. The county health department shall have jurisdiction throughout the county, except in cities having an organized health department with full time health officer, except that such cities may elect to join with the county in the organization.

"Section 6. The county health department shall have the administration of all health laws and the control of communicable diseases under the advice and direction of the State Department of Health."

Section 7 deals with how two or more counties may be joined together. I will not read that. That is merely mechanical. You can have two counties, or three counties, or four. By each county having a representative, they meet, and the organization in the end will be the same as the single county.

"Section 8. All claims against the district health department shall be audited by the district health board," etc.

"Section 9. Act No. 130 of the public acts of 1917, and all overt acts or parts of acts in conflict herewith are hereby repealed.

"Section 8-2. When approved by the State Health Commissioner, the State Auditor-General shall refund to the county maintaining a county health department, either singly or united with other counties, not to exceed 25 per cent of the cost of maintenance of such department, payments to be made quarterly: Provided, that said refund shall not exceed $3,000 per annum for any such county or health district. The State Treasurer shall act as disbursing agent for the Michigan Department of Health in disbursing all other funds received by said Michigan Department of Health for such county or district health service."

One of the difficult things we have had to meet in the organization of county health departments has been proper personnel for the conducting of these county health departments. You know that public health work is comparatively a new field, and the success of any of these units depends entirely upon the men and women you get to put in those fields. If you have a good health officer, you need have no fear regarding the success of any of these units. A poor health officer, by the same token, will give us a failure just as rapidly and just as quickly. It is not only true in Michigan, but it has been true throughout the United States, that the serious question has been a properly trained personnel for these activities. In order to obviate this, and in order to meet this need, some two years ago Dr. Kiefer and the Rockefeller people conceived the idea of starting a training school in Lansing, the purpose being to take people interested in public health work and give them a very intensive course, that they might at least know the objectives and the plans of a county health unit. We have been very fortunate in the type of man that the Rockefeller people have sent us. He has been conducting, with the help of the various bureau heads of our department, a three months' training course for doctors and for nurses. The Rockefeller people have sub-

sidized this man; they pay him $1,500; our department pays him $4,500 a year; and they have subsidized the people taking this course; every doctor going there gets $5 a day, and the nurse gets $3 a day. These people have been given a three months' intensive training, to get them at least acquainted with the requirements and methods of what is considered good public health procedure.

I am sorry to state that unless we get reinforcements from some place, this school must be discontinued, because we haven't any place to put the additional people. We are working in two or three places now to see if we can get a little additional money for the next two years. The law reads like this, and it is just exactly like the tuberculosis law: "The Auditor General shall pay to these counties a sum up to $3,000 a year." We could go on and organize other counties in the state, providing they are willing to wait two years for their money. But, with the present financial conditions, and the feeling among the boards of supervisors, unless they can get their fingers on this money to start with, I have very faint hopes of seeing any additional units organized for the next two years. However, if a county wishes to go ahead and organize, they would be entitled to that money through a deficiency appropriation, the same as the present State Legislature did appropriate $1,250,000 to make up the difference of the last appropriation, the amount that is due the various county and city sanitaria in Michigan.

In this training school only procedures are recommended. Methods have not been stressed. You can all readily recognize that methods that might be applicable in one county or one place would not be proper in another. The things that you can do in Flint, you could not possibly do in Lansing; and things that you can do in Lansing, you cannot do the same way in Kalamazoo, and so forth. That is true in the various counties throughout the State. The training school has emphasized and urged certain procedures, but does not specify methods, because we leave the question of methods up to them, after the unit has been organized, and the local situation appraised.

I do not think methods should be taught because, as I stated before, what you can do in one place you cannot do in another.

Before attempting to organize a county health department in any particular county we must have had an invitation to do so from the county medical society. After the board of supervisors has voted to establish a county health department and is looking for personnel it has been our policy not to interfere with the local county organization having this in charge. We do not say to Isabella County or to Midland County, "You take this man or that man." Personally, I think it is a very poor policy because, if we recommend a failure, it would be up to us. We put it up to the counties themselves to hire their own men. We may send half a dozen men to be interviewed but it is up to the county to choose its own man. In passing, I wish to say that the greater interest you can get your county to take in the local unit the better it is going over.

I wish to illustrate how effectively these county health units have been selling themselves: In one of our counties they made a very unfortunate selection of a county health officer.

Late last summer, rumors began to come into the office that things were not running well. Investigation proved, that things in that county were in a bad way. Being new on the job, I said to myself, "There goes a county." Well, very much to our surprise that fellow's work in the first six months that he had been there had been of such quality that he had absolutely sold the idea to the Board of Supervisors, and the people of the County, even though he himself had proved to be a failure, were willing to shove him out and take on a new man, in order that the work might go on. To me, it was a very notable example, and it has given me a lot of encouragement for this type of work. Although that man was a failure in the end, still, the work that he had done in the first few months had sold itself to the county, and they were willing to go on with the work, in the face of what would seem to me to be a most discouraging start. As far as I know, each of these counties has a medical committee. The report I get from the county health officer is this, that the county health committees do not function. Committees are called together, and they do not come. I can readily understand that, because they are like most committees; it is very hard work to get a quorum. I happen to belong to several of these committees, and

I travel a good many miles, to find out when I get there that we do not have a quorum, and the only thing we can do is to have a meal and go home. As far as I know, in every county in Michigan where health departments are in operation, they have a committtee from the County Medical Society to work with.

Before closing, I wish to say that up to the present time we have not O.K.'d a county unit that showed a budget of less than $12,000. We have figured out that the minimum budget that the sparsely settled counties can get along with is at least $12,000, which gives them a county health officer, a couple of nurses, and nurses' expense, and in some instances a sanitary officer. Of that $12,000, the State has paid $3,000. The first year, the Rockefeller people give them $2,500, the second year $1,500, and the third year $750. The fourth year they drop out of the picture. Up to the present time we have had $5,000 a year from the United States Public Health Service that we have been able to distribute among the counties of the State.

Take Oakland County, they have a very large budget; Kent County has a budget considerably larger than the minimum; Wexford has a budget larger than the minimum. We expect a lot from Barry County. It looks to me,—I am not authorized to say this, and Dr. Pritchard has never told me so, but in the end, I thoroughly believe that Barry County will give us a super-county health department and the finest demonstration that has been given in the United States of what a good county health organization will do.

In closing, I wish to say this, that during the time I have been in the office in Lansing I have not had a single complaint from the medical profession as to the operation of any of these county health units.

I will be glad to answer any questions that you might have, in any way, in regard to the operation of this department.

Dr. Corbus (Chairman): I hope we can have a very free discussion of these things. There may be certain questions in your minds, as I have heard them expressed from time to time, which you would like to have the Health Commissioner answer. The best of all of these talks is the fact that we ourselves become educated. We get closer to a knowledge of what is going on

Dr. Slemons (State Health Commissioner): I will answer that question, if you wish.

Dr. Powers (Saginaw, Mich.): In Saginaw, a large percentage of the work is very satisfactory to the County Medical Society. I think the place where Saginaw falls down is in details, which should be correctible. One of the biggest causes of it amongst the doctors is the assigning to the county unit of the privilege or duty of O. K.'ing the bills that the doctors have for taking care of indigents in the county. I recognize that is a detail, but I think perhaps some of these details are at least worth while mentioning. Secondly, there has been in the past some friction between the county health units and the City Health Department. We have in Saginaw a full time health officer. I would like to ask Dr. Slemons, where those conditions occur, if it is not the understanding that the city functions as a unit in the health matter, and that the County Health Department does not have control of the City health matters, in those cities where they have a full time health department. And the third thing that has crept in, that creates some dissension, is the fact that the so-called Advisory Committee that is supposed to be from our Medical Society, was appointed by the Director of the health unit in Saginaw County, and was appointed apparently for political reasons, using men who live in outlying districts in the county, and only one or two men from the City of Saginaw, which has about 80 per cent of the doctors of the county.

Now, I recognize that all of these things I am bringing up are details in the operation of the thing, and are not a direct criticism of the system as a system. But, these things do creep in. And if we could have a Committee appointed by the Medical Society to act in supervisory capacity of a county health officer, I think it would do away with a certain amount of friction.

Another detail that causes some friction is the ambition of the nurses in diagnosing and making recommendations, which causes friction. Now, that, again, is a detail. But I know that we do get quite considerable friction over that.

And, lastly, the thing that causes friction is the freedom that the health unit uses in sending patients to Ann Arbor, without getting the doctor's opinion on the case until all of the arrangements are practically complete, and then some doctor who thinks it is an easy way to make $5.00 goes up and signs an order on Ann Arbor, so that certain very simple things such as the removal of tonsils and so forth have been known to be sent to Ann Arbor. That is nothing against the usefulness of Ann Arbor, but it does cause friction in our local society.

Dr. Corbus (Chairman): In the past fifteen years, no less than in the one hundred years preceding, the doctor shows evidence of being an individualist. Much of the difficulty, much of the friction, comes from that attitude of individualism on the one part, and ignorance on the other, and certain tactlessness perhaps of individuals who are operating these various systems. Perhaps the greatest number of criticisms which come to us, which come to the Secretary's office, when searched out to their source, and where they are true at all, come from an over-activity, you might call it, and over-enthusiasm and lack of tact on the part of the nurse. And, I presume that goes back to Dr. Slemons' statement that, after all, the success of these things is very much dependent upon the personnel. It is dependent also upon the control of those individuals who are employes and who are not medical men.

Will you now answer the questions, Dr. Slemons?

Dr. Slemons: Yes.

Dr. Corbus (Chairman): Perhaps you might also mention about the social worker and the visiting nurse.

Dr. Slemons: I intended to say, when I was on my feet the first time, that in order for a county to enjoy the subsidies spoken of, there are certain things we insist upon in their personnel. And one

county last Fall chose to do otherwise. Up to the present time, they have not had a nickel, and won't get it until they meet our requirements. There has been no argument back and forth. If a county wants to have our help, there are certain things they must do. Forty counties could organize this afternoon, and organize as they please, and we would have no supervision over them because it would be purely a local matter. But where they want our help, there are certain requirements they have to meet.

The Doctor said, "Where do we get people to take these courses?" Perhaps it is surprising to you gentlemen to know the number of available people, and I would say, the number of worthy people, who wish to take this course. We have on file in our office today, the names of at least half a dozen young men, outstanding young fellows, who are very anxious to go into public health work. They believe, as I do, that public health offers a very attractive future, and they are willing and very glad to start in this work. And I wish to state that your local health officer in Michigan is a different type than he was three or four years ago. At our winter conference, we had an entirely different group than we did five years ago; you would not recognize them as our old Michigan Public Health organization. It will be one of the regrets of the year when I, as I expect to have to do, sit down and write these young people that the course has been closed, that we have not the funds to go on with it, and that we will have to close the door of opportunity to them. We get people from all over. We have a man now from Seattle in our office taking this course. One of the internes at Flint wants to come here. There is a young chap just finishing an interneship in Chicago who wants to come. There are a couple of Dr. Bruce's boys who are figuring on coming in. We have six that I consider splendid candidates for future public health work.

Here is another thing we have been able to do: We have been able to pick out of this group in Michigan good prospects, and we have been able to give two or three fellowships a year, at either Harvard or Hopkins. I have now two young fellows, one in Harvard, and one in Hopkins; we have selected one of Dr. Carey's boys, and the first of September he goes into Hopkins for a year's training. We take the prize of the lot, and, where they want to go on, we give them that training. The field is getting attractive for a fine group of young men who are anxious to get into this line of work.

As to the health officer O.K.'ing the indigent bills, I do not think that that is the health officer's function. If the Board of Supervisors hires you or me, and puts a bunch of bills ahead of us and says, "Here, should these be paid?" I do not know what you are going to do. If you say, "I do not want these things, and it is none of my work," they might say, "If you do not want to do this, we will get somebody else who does." It is a detail that must be worked out between the physicians and the unit and the supervisors. As I said before, the results depend entirely upon the type of men that are put into the places. I do not believe it is the health officer's business to O.K. the doctor's bills.

The county unit has no more supervision over the city unit than it would have in the State of Ohio, as far as I know, and vice versa; they are separate political divisions, and I cannot see where the authority of the two should clash in any way. The county certainly hasn't any business in the city, and the city certainly hasn't any business in the county. It seems to me that somebody should tell somebody something, and do it in a hurry, because there is not any reason, and should not be any reason, for dispute, because the State law states specifically what your boundaries are, and I cannot see why either one of them should meddle in the other fellow's affairs.

The Advisory Committee: We tell these young men going out: Get an Advisory Committee from your County Medical Society. If I was going into Saginaw County, I would go to the president of the County Medical Society, and I would say, "You people elect or select for me an Advisory Medical Committee." That is our advice to them. As far as I know, it is what is being practiced in the organizations that we have anything to do with.

The control of the nurse depends entirely upon the health officer. I want to say to you that we find many of these older county nurses objecting to health officers and to the formation of county health units. That has crept up in a good many places. The nurse has been on the job there, and she sees at once that, if we get a county health officer in there she is going to lose some of her authority. She may not publicly oppose this thing, but we have found them in numerous counties objecting. That is, they would go to their supervisor that they stood pat with, and they would oppose this thing under cover. There have been some dismissals of nurses by health officers after they have been elected. Other supervisors have seen what was coming, and finally settled down to medical supervision. The control of the nurse is absolutely the health officer's business. What he should do, if the nurse meddles in something that is not her affair, is to tell her of her mistakes, and if they are repeated, she should be let out.

Now, in regard to the health units sending patients to Ann Arbor, that is welfare work, as far as I see it, and I cannot see why the county health officer is monkeying with welfare work in any way or shape. It is not our fault that the county health officer has anything to do with the care of your poor people, to send them to Ann Arbor or Jericho. That comes to a different committee, under entirely different supervision, and is handled in an entirely different way. There again, there has been an overlapping of authority, the assuming of a duty that is not theirs, or else somebody has pushed something onto somebody.

Dr. Corbus (Chairman): I am going to read this, and perhaps somebody would like to answer it. It is a type of criticism that we have coming in, and we do not know exactly what to do or to say, but they come to the Council. Here is one from Decatur, from Dr. Bock. He enclosed a clipping from Ann Arbor, Michigan. (Reading):

"Minus their tonsils, 26 pupils from Paw Paw started home to-day, following operations performed at the University Hospital here Saturday. The cost of the wholesale operations was charged to Van Buren County. The school nurse escorted a bus load of children here, after examination showed 116 of the children needed their tonsils removed. She plans to bring 25 more here shortly."

Here is the letter: "I enclose clipping from our local paper, which explains itself. We do this work here, and we wonder why this work should be carried to the University Hospital. If we cannot do this ordinary work for our people * * *

Dr. Slemons: Of course, that is not a County Health Department; that is the county nurse, with whom we have nothing to do.

Dr. Corbus (Chairman): Dr. Slemons says, as far as the county unit is concerned, that has nothing to do with it. In the letter he says that he understands there is a State law which provides for it. It is a rather difficult question.

Dr. Whittaker (Detroit): I read this from the Detroit News, last Thursday, written by Mrs. J. E. Leslie:

"Uncle Sam is quite concerned about the mothers in his kingdom. Any Detroit mother may have good care for whatever she can pay, or, free if she cannot pay at all, by applying to the Department of Health, 1300 Beaubien Street, phone Cadillac 2810."

That is one of the things that comes up.

Dr. Corbus: This talk is open for a very free discussion. We would like to hear from Dr. Ricker. Dr. Ricker, I thought you would like to talk on the Health Unit as it works in Wexford County.

Dr. Ricker (Cadillac): There are certain parts of this program that I would like to discuss. I had a talk with Dr. Slemons a few days ago in his office. We have a very successful Unit at Cadillac but there are always certain things that creep in. One of the things that I talked to Dr. Slemons about was the program of the late Dr. Kiefer. His object was to have a County Health Unit in every County in the State of Michigan, and that the County Health Unit be responsible to the State Health Department in every way. My experience with our County Health Unit has been that they are very much in touch with the State Board of Health. But there are other Health organizations working in our State which are not responsible to the State Board of Health. And with other parties working we hardly know where we are, so many other activities working we do not know where to place the responsibility. Again there is another point about the County Health Unit, as I have read the law, and as you read it over today, that is, that the intent of the County Health Unit was to do away with the Supervisors as health officers. In order to get the Health Unit into the County, you know it is necessary to get the good will of the Supervisors. The Supervisors are allowed to stand on the county health program and this is simply politics, which is very costly. I think that is a very essential point in regard to the relation of health in your county. If we are going to have a County Health Unit, with its responsibility to the State Board of Health, you must place the whole responsibility on your county health officer. As it is now, the two parties are in friction over certain things, in certain parts of the county, and it is not harmonious. Let us do away with politics and allow the Medical Society to direct the Health and Health Units of all Counties where they are working.

Children's Fund of Michigan

Dr. Corbus (Chairman): We are tremendously interested, in the profession, in the things that the Children's Fund of Michigan is going, and is about to do. We would like to know as much of their plans as Dr. Carey sees fit to impart to us. We would like to know how we can be of help to the Foundation, if they desire it. We see great possibilities. Dr. Carey?

ADDRESS BY DR. BERNARD W. CAREY

Mr. President, and members of the Council: I am very happy to be here with you. I believe this sort of a conference is just exactly the sort of thing that spells the best future of public health. One would be dense indeed if he did not realize that every now and again situations arise in the projection of Public Health Programs which cause a great deal of friction. I think there is a very great obligation on the part of those of us who are trying to carry on this type of work. I think we are obligated to use all of the resources which are available to make our program a success. As I say, every now and again, we run into difficulties and misunderstandings. Indeed, we are somewhat like the good lady who saw a little youngster sitting on the curbstone weeping his eyes out. She stopped, patted him on the head, and said, "Sonny, what is the matter?" He replied, "My mother and daddy are having an awful fight." She said, "Why don't you run home? By the way, what is your father's name?" He said "That is what the fight is all about." (Laughter and applause.)

Sometimes I think our situation is almost comparable.

Mr. Chairman, I do not believe I am violating any confidence if I read you a letter written under date of March 22, 1930. This is offered as evidence of our belief in the necessity and efficiency of such a cooperative meeting as we are having today.

Dr. J. D. Brook, President,
State Medical Society,
Grandville, Michigan.

My dear Dr. Brook:

As you are aware, the Children's Fund of Michigan has created a Division of Child Health, with a rather extensive program of activity in that field. It seems desirable to us to have an advisory committee with whom Dr. Bernard W. Carey, the director of this division, may consult. I am instructed by the Board of Trustees to ask if you will be a member of this Committee.

Other members asked to be on this committee are as follows: Dr. Guy L. Kiefer, State Department of Health, Lansing; Dr. Henry F. Vaughan, Commissioner of Health, Detroit, Michigan; Mr. W. Pearce, State Superintendent of Public Instruction, Lansing, Michigan; Dr. P. J. O'Reilly, 4662 Grand River Avenue, Detroit; Dr. John Sundwall, Director of Hygiene and Public Health, University of Michigan, Ann Arbor, Michigan.

Sincerely yours,
W. J. Norton, *Executive Secretary.*

We had one purpose in mind, which is typified by this meeting today. We wanted a representative from the State Society, to whom we could go and discuss our troubles, trials and tribulations. We haven't yet received a reply to that letter. Perhaps this is one of our difficulties. However, I am not going to preach to you.

Some two years ago, Senator Couzens came to the City of Detroit, and called together six men and said that he wanted to set aside some money that could be expended for the children of Michigan. In his own words, he said, "This ten million dollars is to be expended for the health, welfare, happiness and development of the children of Michigan, and elsewhere in the world, if you reach the point where you think you ought to go outside of Michigan." After

discussing the possible programs with Mr. Norton, who was the executive Vice-President and Secretary, we went to Lansing, to the State Health Department, and said to Dr. Kiefer, "We want from you the very best information you have as to how we can expend this money to achieve the purpose of the donor, as it relates to child health." From that conversation came about ten programs, eight of which I think we are carrying on.

The objective of our health program is to correlate the local resources which are available, for the betterment of public health, especially for mothers and children. So, in the Division of Child Health, I divided the program up into administration, nursing care (we have 32 counties with nurses in them today); a dental program of some 22 dentists, and 4 oral hygienists, as well as a summer dental program, operating in counties where there are not adequate dental services now available; and a health education program. We created a demonstration project in Menominee County, to show what was desirable from the standpoint of a Child Health Program. We hope other northern peninsula counties may be stimulated by this example to have similar programs.

By drawing a line westward from Bay City, you get into a cut-over, burnt-over territory, a territory where the tax valuation runs from about $1,700,000 in Roscommon County, to perhaps $10,000,000 in the more favored counties, and you find areas utterly lacking in medical service, unless you say that a doctor who resides forty miles away is available. You find counties without any dental service whatsoever, and, of course, no public health nursing service.

It seemed to those of us who were interested that maybe we would be best serving the purpose of the donor if we were to give these people a public health program which they could not possibly have for themselves. We hope that maybe in the years to come, conditions will have changed so that they can have something on their own resources. We have united these sixteen counties (indicating on map) into four consolidated health units. We have given them each a well trained health officer, recommended to us by the State Health Department. We have placed nurses in the counties and have given them a dentist. A sanitary officer completes the unit to take care of the sanitary problems. The law specifies how the county health unit shall be organized, as you have heard from Dr. Slemons. The Board of Supervisors of the County assembled, must elect three members of that Board, to serve on the Board of Health. So that, in these units it amounted to twelve members—twelve supervisors, serving as the Board of Health.

In addition, we asked each Board to have medical representation from the county on the Board of Health, and this has been done. Dentistry is represented; education is represented. The Board of Health, as so constituted by law, elects the health officer, and then, to make things doubly sure, the State Health Officer has made our men deputies of his department for the health service within that area.

In addition to the Board of Health, we have asked that a local committee be established. We want it for two purposes; one is in order that knowledge of the work may be disseminated more rapidly and further throughout the county, and second, that we may have the advantages of their knowledge of local conditions. We asked to have the Judge of Probate serve on this committee with a supervisor, superintendent of schools, a dentist, a medical man, and certain other important key people. In this way, we feel that we are safeguarding the combined interests of that community. Now, obviously, if a doctor does not go to the committee meetings, if he does not know what the program is all about, it seems to me he should be deprived more or less of his right to criticize, because if he goes and he gives the benefit of his advice to this committee, the nurses are not going to undertake that which is not for the best medical interest of that community. If, on the other hand, a proposal is made, and no medical man is there to give advice, I do not see why, if it seems wise to these good people, a program should not be undertaken. I am talking frankly and freely, because I think that is what you want. I am telling you what I think, and I am telling you, out of fifteen years experience, how some of our difficulties may be avoided.

We have two women physicians who go around holding classes of instruction for mothers. This is purely an educational program. We are trying to interest the mother in the growth and development of her chil-

dren. If there are any physical defects found through this or any of our programs, local facilities are usually available to take care of them. We refer them to the family physician. Last year, out of 150,000 children we handled, 25,000 were referred to their family doctor or family dentist. Of these, about 12 per cent actually had corrections made. Rightly used, it seems to me that the public health nurse and the health department can be a source of very great help to the medical men in the areas involved. We have a program in which we employ two ophthalmologists. Obviously, they need direction and assistance from the physicians. We operate mostly in counties that have no service of this sort. Obviously, we make mistakes. The only thing I can assure you of is that they are not intended to be made. In the County of Mecosta, where I thought we were to work largely in the outlying areas, I found that, through the local committee, the program had actually gotten under way the City of Big Rapids. The City of Big Rapids happens to have a very skillful ophthalmologist, Dr. McIntyre. He was very gracious; when we went to him and explained the situation, he said, "All right, go ahead." He said, "I think you will make mistakes, I think you will take care of people that you ought not to." But he said, "Obviously, you will take care of people who are in need of this source and who won't come to me." We went ahead. We were hardly started in the program before a case got into our clinic, and received a prescription for glasses—a case that had no right to our services—whose father owns two automobiles and tenement houses. Immediately, I telegraphed our nurse to visit Dr. McIntyre and present my apologies and to explain the situation. The doctor was very gracious. Of course, he did not like it; I did not like; but it was one of those things that will happen. Through our local committee, we are trying to avoid this situation as much as possible. We ask our committee to pass upon the indigency of people who are to receive the services, and then to limit ourselves as far as we can to their children.

We have built a modern clinic building for the children of the Northern Peninsula, which will serve, from our standpoint, a twofold purpose. We want to offer some expert service near at home to children who would ordinarily be sent through the Probate Court, to Ann Arbor; secondarily, to offer to the physicians of the Northern Peninsula a post-graduate institution, conducted by the post-graduate department of the University, which is entirely responsible for the medical practice. In truth, we are paying the bills, but through Dr. J. D. Bruce the post-graduate department of the University will guide the clinic.

The staff nurses made 18,000 home visits in the interest of mothers and children last year. About eleven thousand children were immunized with toxin-antitoxin, 70 per cent of these treatments were given by the local practicing physician. About 12,000 vaccinations against smallpox were made, with approximately $10,000 spent by local governments for a health program this year. It does appear that local people are interested in this health program. They are interested, for they are willing to pay in part.

Another type of program in which we are interested is, Child Guidance and Mental Hygiene. That is under the direction of Dr. Maude Watson. Next to Harper Hospital in Detroit, a Children's Center has been opened where children who are in need of mental hygiene will receive treatment, advice and direction. We hope to go into the schools to a greater extent than has been done, and take care of some of the children within the schools. We hope to educate the teachers to a better knowledge of and interest in child guidance here. We are also contributing to the establishment of two centers, one in Flint and one in Grand Rapids, in hopes of developing a modern, practical mental hygiene program.

We have entered the field of research to some extent. We have given $22,000, to see if we can find out, through Dr. Bunting, of the University Dental School, why teeth decay. We are giving $22,000 to the Yale Institute of Human Relations, to see if we can find out more why certain children behave as they do, to ascertain the relationship of environment and companionship, or the lack of recreation facilities of children who come before the Court.

We are trying to find out something more about orthodontia, something more about the development and growth of mouth, teeth and sinuses. This work is carried on by Dr. Lewis, an orthodontist here in Detroit.

We are giving $12,000 for the study of tuberculosis in certain children. This study

is carried on by Dr. Johnson, of the Ford Hospital, in conjunction with the St. Vincent De Paul Society. In the field of dependency, we have given $30,000 to the Michigan Children's Aid Society. We have given $50,000 this year to welfare organizations, for food and clothing for children suffering during this period of depression. We have given the Muskegon Probate Judge an appropriation of $7,500, to see if she can work out a placement home scheme for children that ordinarily would be sent to some institution for their care.

We have established a camp out here near Ann Arbor, for the colored children of Detroit, to give them a little vacation during the summer time. During that time we are going to see them, and, if we can, instill some health habits, and correct some of their dental defects and give them a health examination.

So, I might go on with the other things that we are doing. However, time does not permit. We come to the grand total of $1,166,000 which we have appropriated and expended for last year's work. This ten million dollars was given for a definite purpose. We are obligated to meet the desires of the donor.

In so far as I am concerned, I do hope that you people may see fit to appoint somebody, and I will extend an invitation to you, Mr. President, or any one that you may select, to joint with us in a committee, that we may not only safeguard the interest of the medical men of the state, but have as well, the best possible medical advice on our program.

If there are any questions that you folks may want to ask, I would be delighted to answer them, if I can.

I thank you. (Applause.)

Dr. Corbus (Chairman): We are so greatly appreciative to you, Dr. Carey, for this very fine talk. It is the sort of talk that the Executive Committee felt we would like to come up here to hear. We would like to have a member meet with your committee. We should be extremely happy to do it. And even this Council, who are supposed to be the representatives of some 3,500 men, are supposed to be more or less closely aware of the health activities which are going on, even this Council has not known what it is all about, I know. And if this Council has not known what it is all about, I can assure you that the rank and file of the profession have known even less.

So we are tremendously appreciative of this opportunity of learning something about it.

Now, this talk of Dr. Carey's is open for discussion. If you have any questions, I know Dr. Carey will be very glad to answer them.

Dr. R. C. Stone (Battle Creek): It has been a very rare privilege for me to hear Dr. Carey discuss this work of the Couzens Fund Foundation. As Dr. Corbus has said, those of us who have been on the Council and on the Executive Committee, while we have thought and felt that we knew something about it, yet we have not known entirely the program. We have been very sympathetic with those features of the program which we have had knowledge of. I am sure, if all of the medical men of Michigan could have heard Dr. Carey talk this afternoon as he has, that much of the antagonism, perhaps, if there is antagonism, or, at least, much of the friction which has been brought up from time to time, and the comments which have been not too good, would be overcome immediately by this discussion of his.

It certainly appears to me that, with the splendid work which the Couzens Foundation people are doing, and their objects in doing it, and their efforts and insistence upon having the coöperation of the Michigan State Medical Society, it is up to this Council and up to the members of the Society to get behind a program of this sort and coöperate with Dr. Carey and the rest of the people in this Foundation. It is a splendid work that they are doing, and I personally am very appreciative of it, and I hope that, as time goes on and the work progresses, all of the difficulties which have come up and which will come up, will be overcome, and that you, Dr. Carey, will have the medical profession of Michigan coöperating with you to the very limit. (Applause.)

Dr. Corbus: I hope there will be further discussion.

Dr. Carey: Mr. President, might I say this? I wish they would discuss it. I believe, honestly, with the exception of the instance of Dr. Fairbanks, and this instance of Dr. McIntyre, those are the only two instances I know of, of friction among the medical men and this program. Now, if there be friction, how can I correct it, how can I change a situation, if I do not know about it? After all, it has got to come to me before I can do anything about it, and I wish you would tell me about it. I tell you frankly, I cannot put on the best type of a Public Health Program unless the medical profession is behind me.

Dr. J. D. Bruce (Ann Arbor): There is very little I can add to what Doctor Carey has said in so far as the development of the Northern Michigan Children's Clinic is concerned. In its association with the Michigan State Medical Society and the University Medical School it is in conformity, we believe, with the principles which the Chairman enunciated upon the opening of this meeting today. My particular interest in it has been the opportunity it will afford for post-graduate education and the opportunity it will bring to our profession, permitting its members to be of greater usefulness in all of our northern Michigan communities. The plan in general is this: The Children's Fund of Michigan has erected a building at Marquette, equipped with laboratories, examination rooms, accommodations for twelve children, administration rooms, etc., and an amphitheatre for teaching purposes which will accommodate about seventy-five. The Foundation has given us a sum of money to employ a full-time pediatrician, and we have been very fortunate in securing an extremely well-trained man, who, I am sure, will be very satisfactory to the profession from a teaching standpoint and extremely helpful in the diagnosis and care of pediatric conditions. The plan is to hold, at regular intervals, clinics at Marquette and in the various centers of northern Michigan. There the children that come in will be investigated, diagnosed and, when of teach-

ing interest, will be used for demonstration purposes. Very little treatment will be given directly. Patients will be referred to the family physician, with recommendations regarding care. If that is not feasible, they may be kept for further observation or treatment at the Clinic, or, if facilities are not available in their home community or at the Clinic, they will be sent on to Ann Arbor, as is being done at present.

The patients who will be admitted will be those adjudged indigent by the local authorities, and, in addition to these, certain cases will be presented by the medical profession itself for diagnosis and other help. There will be no practice of medicine as we commonly understand it in this program. It is largely a diagnostic, consulting, and teaching operation, with treatment only as agreed upon by the local medical committee and the resident representing us. I might explain that in each of the centers the local medical society has named a committee whose duty it is to inform us how best we may serve each community, and to act as advisors of all problems arising through the operation of the clinical service. When cases are seen that present problems of such difficulty that it is judged that the local men cannot take care of them adequately these cases will be sent on to Ann Arbor or other centers. Orthopedic cases will be disposed of just as they are at the present time. Cases other than those in the orthopedic group will be sent back to their local doctor, and all of the treatment will be under the local physician except such cases as come in with the request that special examinations and special attention be given by the pediatrician in charge. At the present time the whole operation is in conjunction with and largely under the control of the local society. There will be no conflict with the present local arrangements, only enlarged opportunities.

In northern Michigan rather an unusual condition obtains. I recognized it to some extent when I drove through northern Michigan in a Cadillac. I recognized it doubly and trebly when I covered it this spring in a Chevrolet. After driving 267 miles one afternoon, after three o'clock, some of the fellows apologized for keeping me so long on my feet, and I told them they need not apologize at all on that score, because I was much more comfortable on my feet than I was sitting down. (Laughter.) But as a matter of fact, the Upper Peninsula is an empire in itself. It is a tremendous territory. From St. Ignace to Sault Ste. Marie is about 65 or 70 miles; from the Soo to Marquette it is 187 miles; from Marquette to Houghton is 120 miles; from Houghton to Ironwood is 135 or 140 miles; from Ironwood to Escanaba is about 200 miles; from Ironwood to Menominee is 260 miles. You can see the tremendous distance to be covered, so that instead of establishing one center in Marquette and hoping to take care of all the people of the class contemplated, we are planning the establishment of sub-centers in the towns I have just enumerated.

Now there is a certain situation in which we can be very helpful—helpful to the State and helpful to the people. At the present time a considerable number of children as well as adults are being sent to Ann Arbor for treatment. Of these cases quite a number are relatively easy to deal with and oftentimes are not particularly valuable from the teaching standpoint. Such cases are coming three or four hundred miles not infrequently, at an unwarranted expense for transportation. With the establishment of these centers, large numbers of patients can be taken care of by the local practitioner, and as time goes on, in some of these counties, as is under way already, I am hoping that remuneration will be made to men who can take care of conditions that arise in the ordinary practice of medicine and surgery, rather than sending such cases the tremendous distance that is now being done. There will still be plenty who should go to Ann Arbor to benefit through the opportunities which the State has generously supplied in buildings, equipment, and personnel. In the program contemplated large numbers of cases will be brought to light, needing special care, and of such extreme interest for teaching purposes that they should go to Ann Arbor. Through this cooperative movement, we can save the State a very considerable amount of money and help Mr. Couzens in his laudable desire to bring aid and comfort and opportunity to many children otherwise unprovided for.

In his introductory remarks Doctor Corbus has indicated how importantly the Michigan State Medical Society regards our program of post-graduate education. He has also called attention to the increasing number of agencies seeking responsibilities in medical, social, and economic problems in which the medical profession has always figured prominently. If I correctly interpret his remarks, he feels, as I believe we all do, that we must give much careful and sympathetic consideration to all proposals offering seeming opportunities for human betterment. Our knowledge of medical and social needs places us in a very strong position and one of great responsibility. The wisdom with which we meet these problems will be, no doubt, a factor in deciding questions of much importance to our profession and to those we serve. Doctor Carey has told you that the professional part of the Children's Fund program in northern Michigan is in our hands. This association gives us opportunities we have long desired in the way of post-graduate teaching in northern Michigan and in addition to this it would seem to widen greatly the opportunity for service which every man in practice should be looking for.

Dr. Ricker: Dr. Carey, at the time of my previous statement, I did not realize the embarrassing position I would be placed in after hearing your report.

As Councilor, I receive many complaints from the large area which my territory covers, some of which should be given worthy consideration. I feel the Michigan State Medical Society should become closely affiliated with your Fund and know of its workings.

My first experience was a personal one, not being familiar with the fact that the Couzens Fund was in Osceola County. (At this point I wish to explain that I had given several years of my life to eye, ear, nose and throat work, and felt confident to do refractions, but owing to the small amount of revenue from this source, it was necessary that I do other things to make a living.) I had a case of osteomyelitis which had been coming to my office for treatment. The family was fairly well to do and had always paid their bills although not as punctual at all times as I would have liked. On this occasion which I wish to refer to, the father and three children came to my office. During the course of the treatment for osteomyelitis, the father asked me if I was able to fit glasses. I said I was. He told me that the two children had been told to go to Reed City to consult your doctor on this particular Saturday, but inasmuch as they were coming to Cadillac, he brought them to see if I said they needed glasses. I refracted these children, both of them needing glasses.

The second experience was a patient who lived in Lake County who was on the way to Marion, some twenty miles beyond Cadillac, and being a rather bad day to travel, the mother brought the child to me and asked me to see if it needed glasses. I re-

ported that it did. She said that they had been told by the nurse that they must go to Marion to see the physician for the Couzens Fund who was to be there on that particular day. I fitted this child with glasses, which they paid for, and also examined the mother as she also needed medical attention. In this case the doctor for the Couzens Fund was not only taking the child away from the general practitioner who was able to do refractions, but was also keeping the mother from the advice of her physician. This I attribute to no fault of Dr. Carey's. It was simply a case of an over-zealous nurse who wished to accomplish some of the things which she was advised should come under her program.

I was very glad to hear Dr. Slemons of the State Board of Health say that the County Health Unit has nothing to do with the welfare work. That is not their position. One of the biggest bugbears we have had this year is the county health agent dealing with welfare work. It has taken away the patient that is able to pay who might have whooping cough, chicken pox, or something of the kind and they are holding them up, taking the family and making the health officer the advisor from that time on. I have had three young men with me in the last four or five years and they are the ones who are asking, "Where are we going to get off at? Where are we going to get our practice? What have we got left to work on?" We who have been in practice for years are assured of a living because we have an established practice. There is a point about this that should be watched to see that it is run successfully in order that the younger men may come into the northern part of the State. They do not have any trouble in getting them to come to the cities because there are so many different lines there for them to deal with. But we have very little to offer in the rural communities after the County Health Unit and welfare workers have sorted out their patients. I assure Dr. Carey that I have enjoyed his report and am simply giving my own personal experience in these things in which we are vitally interested.

Dr. E. J. O'Brien (Detroit): I want to emphasize the great value of such organizations as the Couzens Fund. I think the question of that case of osteomyelitis brings up a point that medical men very often forget. That case, while it was under the observation of Dr. Ricker, at the same time there were a couple of children who needed refraction, and Dr. Ricker did not know about it. It took the Couzens Fund to find out that they had to bring the cases to Dr. Ricker's attention. I think there is apt to be a slip-up quite often in these things, when somebody should aim by it and he does not. But, on the whole, I think well of the movement which takes up these things. That certainly must not be construed as a criticism of Dr. Ricker. He could not get around to the number of families to pick out everybody who might need something. An organization of this sort can. If it is properly managed, and especially after this splendid suggestion of Dr. Carey, of working with the medical profession and the medical society, I think we can all get in accord, and it will work out all right.

Dr. Paul R. Urmston (Bay City, Mich.): I represent, as councillor, most of the counties in blue up there (indicating on map), and I will say now that I have not heard a complaint, as councillor from that district comprising the ten counties north of Bay City, from the central portion of the state to Lake Huron. I was certainly interested today to know how the Couzens Fund is working up there, and I will be more interested now to make a survey of those counties, to see how they are working. The only way we have any contact with the Couzens Fund in Bay County is in regard to the dental clinic. I have asked a number of dentists, and they have no complaint about the way it is working. I would be interested to know if Dr. Carey, or somebody connected with the fund, would be available as a speaker before the county societies, and in that way we could present this fund to the individual doctors, so that they would have a better understanding. I am sure, if somebody from that department was available, that all of the counties in the state would be glad to have a speaker from that department, to interest the doctors and also to educate the supervisors and your county probate judge.

I think all of the criticism so far that there has been of this fund, or any other fund, and through our county itself, which has been going on for years, is through our probate judge and supervisors. There is a law in the state that we have nothing to say about, and in our own county at the present time the supervisors and the probate judge are restricting the number of cases sent to Ann Arbor. So they made arrangements with the local doctors to carry on that work, and relieve the county of the burden and expense of sending them down there. We are not so far away; but I can see where those in the Upper Peninsula could be done cheaper up there, than to be sent to Ann Arbor. If the supervisors and the county probate judge were educated on that point, we hope the doctors would be satisfied, and we would not have any objection to any of these funds.

Dr. Corbus (Chairman): I regret to have to close the discussion. I will call on Dr. Carey, if there is anything further that he would like to say.

Dr. Carey: First of all, I want to offer my apology for my nurse in your county. I did not know of that instance. However, I hope that you will be compensated in part for the loss of those people. It may be that our scheme is wrong. If the local people do not know, if the judge of probate, the supervisors and the local doctors, and the key lay people, and the superintendent of schools, if they do not know who is poor in the community, how in the world are we going to know? We ask them who shall receive this treatment. I know well enough that I am going to slip, but I want you to know that it is not intentional, and we are doing everything we can to prevent it.

Relative to a county meeting, we would be glad to go. If I could come myself, I would be very happy to go; and if not, I can arrange for someone else to go to the meetings, certainly. (Applause.)

The Kellogg Foundation

Dr. Corbus (Chairman): A matter of regret that I have to announce is that Dr. Pritchard could not come, owing to the sudden death of his associate. President Stone has a letter from him, and perhaps he will feel that he is able to comment to some extent on the Kellogg Foundation. President Stone.

Dr. R. C. Stone: Dr. Pritchard came to see me Sunday noon, and wished me to extend to you his very deep and sincere regret that he was unable to be here today—his absence being caused, as Dr. Corbus has said, by the very untimely death of his associate, Dr. Selmon. Dr. Pritchard in his letter asked me, if there were any questions

that came up that I could answer about the Kellogg Foundation, to do so. By the way, he said I should represent him here. I must admit, though, even though I have had several discussions with Dr. Pritchard regarding the Kellogg Foundation, that I am very much in the dark as to what their ultimate purposes will be. Their work thus far has been largely, almost entirely, confined to school work, and building up adequate schools with definite health programs, in the rural communities. They have built a school at Gull Lake, in Kalamazoo County—with the help of the supervisors; they have not done it all. They have installed in the school examination rooms, record rooms, and social service, and have given these children complete examinations, including a complete physical examination, and including an X-ray of their chests. Their work has been entirely—Dr. Pritchard emphasized it to me, that their work will always be only in cooperation with the medical profession. In counties where they are working now, he is coöperating, and the county societies are cooperating with them. He has told me many times that they will not consider operations in any county in which the county societies and local doctors will not coöperate. They are taking the same position that Dr. Carey has taken in regard to the Couzens Fund. They do not wish to take away the work of the doctor. They want to educate the public upon the need of a health program, and carry a health program which will be constructive. They also want to help the doctor by giving him a certain type, if you may call it that, of postgraduate training in health problems.

How far reaching the work of the Kellogg Foundation will be remains to be seen, but I am positive I can say this as quoting Dr. Pritchard, that whatever the wishes of the medical men of Michigan are, in cooperating with them, that they will be very happy to coöperate in so far as their means and their program will allow.

I think that is about all, Mr. Chairman. I am very sorry Dr. Pritchard could not be here, because he could go on and tell you many things that I would not feel at liberty to discuss. But I am sure on another occasion, if it is possible, he will be very happy to talk.

ADDRESS BY DR. STUART PRITCHARD

Medical Director, W. K. Kellogg Foundation
BATTLE CREEK, MICHIGAN

The purposes of the W. K. Kellogg Foundation are to directly or indirectly become actively engaged in child welfare; to consider ways and means of helping in matters of child health, child education, child recreation, child character building, and to influence school children so that health education may, in turn, penetrate the school, the home, and the community.

At the present time our chief interest lies in the rural school problem. We wish to encourage the consolidation of small country school districts, and to establish a central school, which includes all classes and grades up to university entrance, where vocational training and health courses may be added to the curriculum, so that the rural school children may have an equal, if not a greater opportunity, when compared with that of urban pupils.

The Foundation supplies the health supervision of the consolidated school for an indefinite period of years with the hope that in the years to come the community will see fit to continue most, if not all, of these activities, so that the work of the Foundation may be transferred to some new field to "further carry on."

Since the health supervision part of the proposed demonstration concerns the members of the local medical profession and since much of the success of the project depends upon their hearty support, therefore, it would seem desirable to set forth a statement to serve as a basis for cooperation between the demonstration staff and the local physician.

It may be stated at the outset that the Foundation has no thought of coming in as a competitor in the field of curative medicine. Its chief concern is in the prevention of illness and the maintenance of a high health standard.

The procedure to be followed will, it is believed, conserve and protect the interests of the private practitioner. It is anticipated that such activities will stimulate the growth of a new relationship between physician and patient whereby both will profit far more than in the past from reliable medical information and high class medical service

aimed at keeping all members of the family in health.

The work of the W. K. Kellogg Foundation will not only be carried on in close cooperation with the local medical profession, but as far as possible the services of local physicians will be utilized.

The services of the staff will, for the most part, be concerned with the following:

(a) Health examinations of school children carried out at the schools.

(b) Health counseling and follow-up work by nurses to bring about correction of health defects by the family physician.

(c) Assisting public health officers and local physicians in carrying out the program of immunization against the contagious diseases.

(d) Health examinations and health counsel for the preschool children carried out in health supervision centers.

(e) Ill children presenting themselves at these health supervision centers would be referred to the family physician.

(f) In referring an individual to a physician, in case he has no family physician, he would be given a list of physicians approved by the County Medical Society.

(g) Demonstration staff nurses visiting the homes would, in case they rendered any nursing service, follow the instructions of the physician in charge of the case and be careful in expressing medical opinions. The local physicians would be used as much as possible.

(h) In the case of indigents, occasions may arise in which medical and nursing care would be given by the members of the Demonstration Staff, but only after investigation, advice, and consent of the County Medical Society.

During the entire health supervision program the school boards, the children, parents, and the community are constantly reminded of the importance of the family physician. He is made a part of all programs and is paid for the work he does. The Foundation makes it a rule that no territory is entered without the consent, approval, and promised coöperation of the local medical society, and all matters of procedure are discussed with its executives. In this way the local physician is an active part in the program, his wishes are considered, and it is the desire of all concerned to elevate his standing in the district and to enlighten the citizens more fully of the value of the doctor to the province or state, the community, and to the individual.

Tuberculosis Association

Dr. Corbus (Chairman): Mr. Werle?

Mr. Werle (Secretary, Michigan Tuberculosis Association, Lansing, Michigan): I do not know that there is anything to be added by a lay worker, except perhaps the assurance that after nearly a quarter of a century of work in this field, on the fringe of medicine, as a social worker, I have learned that the leading social working agency is the medical profession. It antedates by centuries the specialist who calls himself a social worker. Anything we do in tuberculosis work today has behind it the inspiration and the vision of medical men. Many years ago it was made very clear to me in my training that the tuberculosis problem can never be solved by the social worker or the social working profession. It can be solved only by the medical men. We in social work cannot go any further than the medical men will let us go. Now then, if occasionally workers in medical social service makes mistakes, or overstep, or are overzealous, it is probably because of a buoyant spirit more to be directed and commended than condemned. It has been made clear, I think to a measure, in this resolution, and I think it is the contention of those of us who are not trained actually as medical men, but who work in this health field, that the next step ahead in tuberculosis must be in arousing a closer interest and more active and intelligent understanding of the handling of the tuberculosis case by the man in general medicine.

Perhaps it would be of some interest to the men here to hear a little something of the educational activities of the Michigan Tuberculosis Association, so that you might see why we have come to this particular conclusion again now, as we have often before. When the tuberculosis movement was organized, it was organized by medical men, and it has always been under the complete control of medical men. There have been times when laymen have held high executive offices, but there have always been in the Michigan Tuberculosis Association a preponderance of medical opinion and medical

men in the handling of its affairs. These medical men, who do work in this field, pointed out to us that the tuberculosis campaign divides itself easily and naturally into two heads. One is immediate combat with the disease itself wherever it is apparent; and that, of course, is the medical side of the campaign. Then there is the other side, which deals with the disease where it has not yet manifested itself, or before it should manifest itself; in other words, education.

As you probably know, the tuberculosis movement brought into existence various types of health education endeavor, because it was found that the ethics of the medical profession would not permit an aggressive attack on this sort of hidden disease.

In an educational campaign against tuberculosis, the tuberculosis association has two purposes in view. One is the education of individual children in personal hygiene, with the ultimate goal of an understanding of community hygiene, arousing a demand for an understanding and appreciation of scientific medicine. I think, perhaps, on the side, I might say that for years and years there has been no other agency so aggressively opposed to medical quackery as the voluntary health agency. The second point is the education of adults for an immediate effect in community consciousness in health. The immediate effect of that campaign with adults is the provision of money for public health purposes out of public funds. For example, you might have noticed this session of the Legislature passed bills which make available out of state money about $4,000,000 for the next biennium for control of human tuberculosis. That is one result of the steady educational pull of the tuberculosis association. Another reason for educational work is that it was felt to be useless to undertake any purely medical campaign because of the peculiarly chronic and hidden nature of the disease and the restrictions of medical ethics.

The educational campaign is making its headway. It has brought to the public a knowledge of the need for scientific medical care, as I suppose no other campaign has done. It has gradually been hammering home to the people that they must go to their doctors early. Then, it has brought to the doctors an appreciation of the fact that the medical profession must prepare itself to make a diagnosis of tuberculosis. One other factor which is of very great importance in considering the tuberculosis problem is this: Unlike acute diseases, in tuberculosis one cannot easily determine the indigency of an individual. A family which has a household, and which is able to pay its bills, ordinarily would not be indigent in a case of diphtheria or whooping cough, for instance; but might be found indigent when the matter of handling a case of tuberculosis came up, because of the chronic nature of the disease, and particularly because of the need of a long period of recovery after actual hospital care and treatment. Therefore we find that the social worker more than ever must lean upon the opinion and generous point of view of the medical men, in determining what shall be done with a patient.

These are some of the problems which the Tuberculosis Association is engaged upon—the matter of health education, not specifically for tuberculosis, but very broadly, has engaged it for years in the belief that with an awakened public consciousness of what scientific medicine is, and of the need for adequate scientific control of disease, there would come to the medical profession the opportunity to find and to control early, the as yet unrevealed and unsuspected cases of tuberculosis. Up to date, and all around us, then, is the question of closer and closer control and coöperation with organized medical forces. This resolution which you have before you is merely another expression of a point of view which we never fail to keep in mind, namely, that the tuberculosis question, the solving of the problem of tuberculosis, the handling of patients, is always found at the door of the general practitioner of medicine. We have been endeavoring merely to help bring that job out to where he can handle it more efficiently. (Applause.)

Dr. Corbus (Chairman): Will Dr. Shepard or Mr. Werle speak on this?

Dr. B. A. Shepard (Kalamazoo, Mich.): Mr. Chairman, members of the Council, and guests: Not being a speech-maker, I wondered why you should send me that letter to come down to Detroit to talk to you. Then it came to me that possibly there was an explanation similar to what I had the other night, knowing that the Tigers were playing here; they asked me to speak a few words, asked me how long I would take, and

I said five minutes, and they said, "Can't you take ten, we want to empty the hall for dancing?" (Laughter and applause.)

Perhaps you can get out to see the game yet, although you are a little late.

I cannot reminisce with our president for the last one hundred years of our society. We have only been going in Michigan since 1908. The Michigan Tuberculosis Association was organized in 1908, about that time. I believe I have the date correct. That movement was started largely by the physicians, and some of our prominent citizens of the State. But, the underlying spirit was that of the physicians. The work went on. You will remember, the first office was in the office of Dr. Warthin, of Ann Arbor. The work went on and grew, and people became interested. Lay people became greatly interested in it, and got into the work heavily; and the work has grown now to where it reaches out and has its fingers reaching out into various kinds of work, educational largely, and has been doing clinical work. As the lay people have been coming into the work, it seems as though they have outnumbered somewhat the physicians or medical interests; and, they are interested in the medical side of it.

The tuberculosis problem will never be settled without the general man. Specialists cannot do it. The man who has come to limit his work to tuberculosis cannot settle the problem. It has got to be the general man, the man out in the field. The specialists are only getting the cases that go to the clinics, and the ones they happen to stumble onto or that are referred to them. We have held clinics throughout the State of Michigan more or less efficiently, and try to do good work. But, we have come to believe that is not the best way of functioning. We have felt that we are not quite as efficient as we ought to be. And, last year the Board of Trustees, or the executive committee for the Board of Trustees, decided to appoint a committee of representative medical men of the State, to confer and see in what way the Association could do better work. That committee met. That committee was composed of representative men of the various institutions and parts of Michigan. The outcome was the recommendation read by your chairman.

I do not know that I could say a whole lot more. A few years ago we had this same feeling, about two or three years ago, and it was suggested to this organization that we get together on some plan of work. But, for some reason, or for various reasons, we did not get it started to a very large extent. A little postgraduate work was done, and it went over in good shape, but to a limited extent. The men were intensely interested. Now, our idea is that we should help the general man to help himself, or have the general man to help the community, by getting him interested, and by getting him in closer touch with tuberculosis. In doing that, we hope we might take the postgraduate work to him. Instead of going into the community, for an occasional examination and diagnosis, or mis-diagnosis—and I do not mean any reflection on any of your members; but in fifteen minutes, a man cannot be very sure of himself; but, instead of going in and diagnosing fifteen or twenty cases, if we can get a man interested, in the community, who lives there, and is treating his cases, we have done much more for the cases of tuberculosis than we do by diagnosing a few of his cases.

Now, it is our aim and our hope that we may have your coöperation, and that we may work with this organization, the State Medical Society, and the other organizations which have been mentioned, along this line. We believe, if we can put over something of this kind, it will be bigger and better than anything that has been put over in any of the other states.

I have talked to some of the men from the various organizations, and I have yet to find anyone who does not see the opportunity of a big piece of work for tuberculosis. I have talked to organizations, and those I have talked with have been for it strong. The medical profession are coming now to do more work along health education lines. And, this is the opportunity. One of your organizations here in the state already has used our organization to some extent, that is, some of our personnel, to put over a health program along that line; and we hope that we may work with you, with the state medical society, in carrying to the doctors and to the communities a great deal of work, through our university, that will set Michigan ahead in solving the tuberculosis problem. I thank you. (Applause.)

State Sanatorium Commission

Dr. Corbus (Chairman): I have a special topic for Dr. O'Brien, "The Michigan State Sanitaria." I am going to ask him to speak now and to combine whatever comment he has to make with this subject.

ADDRESS BY DR. E. J. O'BRIEN (DETROIT)

I am very glad that Dr. Corbus has suggested an outline for my talk because there is not much to say about the Sanatorium Commission. The Sanatorium Commission fell heir to a cheap boarding house at Howell a few years ago and this has been going through a period of transition since.

We believed and still believe that a sanatorium should be a place for the care and cure of the tuberculous sick and not as a haven of rest for the indigent, chronic sufferer. To accomplish this end, we have tried as much as possible to have admitted to the hospital only those patients for whom something could be done. In other words, those patients in whom the diagnosis of tuberculosis was made early and sanatorium care was possible while their disease was still minimal in extent. We soon found that we were to run into many difficulties in carrying out this scheme and that even though, as Mr. Werle has told you, extensive campaigns were carried on to get patients to the doctor early for an examination, many of these patients were incorrectly diagnosed or, if diagnosed, were left on indefinite care and not sent to the sanatorium until the disease had progressed so far that treatment became impossible.

I would like to correct Dr. Werle on one point that he made. Tuberculosis is not a chronic disease. It is a very acute disease and must be treated very actively. Dr. Werle and I were both present at the meeting of the National Tuberculosis Association at Syracuse last week, and papers read there showed very conclusively that tuberculosis comes on very rapidly and cavities, when they exist, come on early after the onset, many cavities forming as early as one week after the initial symptom, and that most cavities will appear within six months after the onset. Therefore, the treatment of tuberculosis must be based upon that knowledge.

I made a statement at the National Tuberculosis Association meeting last week which I would like to make again, that tuberculosis is considered a chronic disease and becomes a chronic disease merely because of the lethargy and apathy of the medical profession regarding it, and I do not qualify that.

The whole picture of tuberculosis has changed very materially in the last few years. While it used to be considered a disease of adult life, we know now that in most cases the first infection takes place during childhood and that adult tuberculosis is usually a reactivation of this early infection. With our present knowledge, there is no need for tuberculosis being the chief cause of death in this country today. If sufficient hospital beds were available and a proper check-up of all school children and the contacts from which their tuberculous infection originated were made, and early and active treatment of all these patients and other patients afflicted with tuberculosis were carried out, the disease, if not entirely eradicated, would cease to be a menace within twenty-five years.

At the Howell Sanatorium, we are having a great deal of trouble because we have only a few hundred beds and there are double or treble that amount of patients who need hospitalization. Instead of our having a proper selection of cases, the institution has a large number of old chronic, hopeless cases.

It seems very difficult at times to make people understand why discrimination must be used in this selection. If only five hundred beds are available, however, and there are a thousand patients that seek admission, five hundred of whom have minimal disease that can easily be cured and the other five hundred are hopeless chronics, it seems clear that the curable group should be given first choice. If we reversed the procedure and hospitalized the five hundred chronics, we could do nothing for them, and while they were occupying the beds the five hundred who might have been cured drift into a hopeless condition and it becomes a vicious circle. It would be nice, of course, if we had beds enough to take care of both groups but we must make a choice as there is just as much danger of infection to others from early acute cases as in the old chronic ones if they are not hospitalized, so we feel that our course is clear.

About twenty per cent of the patients admitted to Howell, sent there by doctors throughout the state, have no tuberculosis at all. Unfortunately, a proper diagnosis of

tuberculosis and the extent of the disease can not be made with a stethoscope. It can not be done by our most efficient experts.

Cavities are silent in a relatively large percentage of cases and râles are present in old healed disease, as well as in the acute. The doctors can not be blamed, therefore, who live in communities where an X-ray is not available because it is only by the use of the X-ray that a proper understanding of the extent of the disease can be determined. There is a territory north of Bay City where no X-ray machine is available. The Sanatorium Commission felt that if a mobile X-ray unit could be made available and sent throughout the state, especially in those areas in which it was needed, much could be done in getting the proper cases to our sanatorium.

Dr. Shepard has told you that tuberculosis can not be conquered by the specialist alone but that the general practitioner's help must be enlisted. In order to do this a campaign of education must be carried on. Dr. Bruce is on the right track and is trying, as much as possible, to hold post-graduate courses to give these men an opportunity to become more familiar with this disease.

It was our thought that possibly these mobile units might be used in various communities as the basis of a clinic to which the rural men might come and check up their physical findings with the X-ray, etc. It did not seem advisable that we, as a commission, should start out by ourselves and send this unit out from the institution. It was thought best to have its activities controlled by the Michigan State Medical Society, Michigan State Board of Health and the Michigan Tuberculosis Association and to work in conjunction with the Couzens and Kellogg Funds, so that a more unified effort could be obtained. We held a meeting at Lansing recently with representatives of these organizations and it was agreed that, if this mobile unit could be obtained, it would be placed at the disposal of the State Health Commissioner, who would in turn use it as I have just suggested. I should be very glad if, from this representative meeting, we could get other ideas which would benefit us and I welcome your comments.

At the recent session of the legislature, the malt tax was passed which will give us something like two million dollars for the erection of a new hospital in the northern part of the state, as well as for other tuberculosis work. The new hospital will be under the supervision of the State Sanatorium Commission. We hope we shall be able, there as at Howell, to make a proper selection of cases so that the best results from our limited number of beds may be accomplished.

The treatment of pulmonary tuberculosis, together with bed rest, is surgical. The old idea of living in shacks and trusting in God and fresh air is past. Patients must be treated in a well equipped hospital with a staff that understands tuberculosis and its treatment. We must all work together. It will be useless for Mr. Werle and the State Tuberculosis Association to carry on their active campaign for the enlightenment of the public, urging them to go frequently for examination, if the profession is not properly equipped to diagnose and recommend the proper treatment for these patients when they come to them.

Dr. Corbus: It is always a difficult thing to say who shall or who shall not receive free service. From experience over many years, I am of the opinion that Socrates and the Seven Wise Men would fail to come to any definite conclusion. (Laughter and applause.)

Now, as far as our order of business is concerned, we are through. This is one of the most valuable meetings that I have ever had the pleasure of presiding over. It seems to me, to bring the profession of Michigan, its Council, into contact with you men who are interested in the social actvities, and to get on a common ground, is the most important thing that we can do, as a Medical Society.

I am going to adjourn this meeting in fifteen minutes anyway, or before; but there is going to be an opportunity to bring up anything that you have in mind at this time. You know that there is an executive session of the Council. I do not want to stop anything that you are going to say, but I call your attention to the fact that there will be an executive session of the Council at 6:30 o'clock.

Dr. Powers (Saginaw): This is just some information I want to pass on to Dr. Shepard and Dr. Werle. I hate to pose as coming from a Bolshevik section, but at the last meeting of the Saginaw County Medical Society there was a very hot discussion about a recent clinic held in Saginaw, and the cause of the discussion was entirely due to the fact that in no way were the Doctors consulted as to the advisability of holding that meeting, or the fact that it was to be held; and the first information that we have ever had on a tuberculosis clinic being held in Saginaw was from the papers, according to the discussion as given at this Society. There was a very hot resolution that started, but fortunately it was not passed, which would have been rather condemning the Tuberculosis Society and their work.

Now, that is a very unfortunate situation, and I just simply mention it happening at the last Saginaw County Medical Society meeting.

Dr. Shepard (Kalamazoo): May I say that was not put on by the State Tuberculosis Society. That

was a local affair, by your own people, put on by your own people, as I understand it. At least, the State Society did not put it on. We have not put on a clinic this year. We are waiting on this proposition. We want to work with you, and through the profession, and through the Medical Association. We want the doctors to do it for themselves. That is what we are trying to get at. The very purpose is to work with the medical societies, and to have the doctors have these clinics as they want them.

Dr. Powers (Saginaw): It was put on under the auspices of the Saginaw County Tuberculosis Society, which I understand is a branch of the State Society. So that we, as a medical society, have to trace the blame directly to the State Society when one of their offspring does it.

Dr. Corbus (Chairman): This group would like to hear from the Wayne County Medical Society, the President.

Dr. J. Milton Robb (Detroit): You might call on me a month from now, and in another month I would not be President. I would rather be right than be President. (Laughter and applause.)

I am sorry I was not here during the majority of the afternoon. I do not know any of the problems that you have discussed. As far as I am personally concerned, I only have this one feeling, that the public hygiene gospel should be presented mostly by the men in medicine, providing it is going to stay as a permanent factor in the state. I see no way that a continuous service is going to be maintained. And I think that the feeling of those organizations who are coming in to do the work is that they are laying the foundation for the future, so that the man in medicine is going to be sufficiently trained, so that after they have withdrawn then he will continue; the medical men will continue, with what basic education they have obtained or gotten from this effort, to care for these people in the state. I cannot see, as far as I know, any objection to any of the efforts that I know of. I have this one feeling always, that whatever effort there is developed in the way of teaching, the post-graduate effort, rather than any effort to do otherwise, is found to run a state into a good deal of trouble. If you destroy the individualism of the people of the state, you have destroyed the state. And I know that those who are behind these funds must know better than we do that that is the basic principle from which they cannot deviate. I am not informed about all of the particulars at all. I wish I could have heard Dr. Carey discuss his problems. And I know many of the problems that Dr. O'Brien spoke of. I know that they will be conducted in a very definite and logical way.

It was interesting to me to find out a short time ago that the state was in debt to the extent of $800,000 in the county units, for tuberculosis work. I wondered just when and how this is going to be cured and handled, because, in the long run, the people of the state have got to pay for it, and we are the people of the state. It was a surprise to me to find out that that was true. If there is any way that the physicians, in handling this question, in any possible way through education, and through post-graduate effort, learn to handle these things at home, so that the expenditure is not increased and placed on a state that is already burdened, it will be a wonderful thing for the state. We here in the city are in the throes of a financial disturbance that I do not know how we are going to get out of. I wonder, too, if, in time, the individual can again accept the responsibility which has been so regularly accepted by the state itself. (Applause.)

Dr. Whittaker (Detroit): I want to say, in the absence of Dr. Sundwall, Chairman of the Legislative Committee, who had to be away today, that I was very much interested in Dr. Slemons' remarks, and also the remarks of Dr. Carey, and Dr. Stone. I want to say, in regard to the money which was set aside for the state to back up the work of these two men, I feel that our Legislative Committee this year was able to lend quite a tremendous influence in bringing both of these bills through the legislature. I am sure we had to have the help of these men in the work.

In going around the state and talking to the various County Societies, we cannot disregard the fact that there is a tremendous amount of unrest among the profession. As I have pointed out before, there are nineteen agencies operating in the State of Michigan, which are helping the people of the state, in addition to the efforts of the medical profession. It is undoubtedly due to the activities of some of these groups that the doctors are in such a state of unrest. I do not think these problems can be solved at a short meeting like this here this afternoon. I would like to bring to the attention of the Council that I hope that some thorough study will be made of all of the agencies that are being carried on in the state.

Dr. Kiefer was a very good friend of mine, and I had a great deal of regard for his judgment, and I know that this development of the County Health Unit was one of his pet projects. At the time he proposed the County Health Units, the Wayne County Medical Society went on record as being opposed to such a plan. We went on record in that way because of two things, because of these things, because in 1915 there was a law passed which gave the University of Michigan the right to establish a unit in each county in the state to practice medicine. We felt, with the development, in 1927 and 1928, when the County Health Unit went into effect, by combining the two laws it would be easy to step into the situation where the University of Michigan could carry on the practice in the entire state. I would like to see our Health Department not go so much into detail for the County Health Unit set-up,

but I would like to see our Health Department come out flat-footedly and say what they actually believe in, as far as the coöperation that is possible between the practitioners of medicine and the Health Department. In other words, I would like to see our Health Commissioner say, "It is my opinion that health work in the State of Michigan, and health development, consists of education work, and so forth," and the various four or five things that I have pointed out to the Council before, so that there can be a definite understanding between the two groups. I believe if each side understands each other, if each branch of medicine understands the other, that the end-result will be very much better.

I hope that, as a result of this preliminary meeting, in the next few months all of the various agencies operating in the state can get together and do a good job.

Dr. T. F. Heavenrich (Port Huron): I have had many kicks from the doctors in my district, and I have attempted to give some thought to it. Mr. Boker called me out of the meeting this afternoon. We have had a lot of training of specialists. The thought I have is this, that we ought to train specialists in social service work. Each one of the organizations has its own social service workers. We have so many of them coming into our county. Each one of them wants to find something which can be taken care of. They are all trying to make records. That is natural; that is human. Would it be possible for each county to organize its own social service staff, and let any of these organizations that wish to come into the county to do the work there, to make use of a local county staff? They are familiar with the people and their problems. And, to a certain extent, they are familiar with financial conditions. To expect that the Couzens Fund, the Kellogg Fund, the Tuberculosis Association, or any other society, can come in and start their social service worker immediately, and expect to get the best results, is wrong. I have seen them come into homes, and pick out patients that could have been brought to the clinics; but if we had our own organization, and turned that organization over to them, when they want to come into the communities, couldn't they get somewhere? Then the local doctors, under those conditions, would have confidence in the need for the cases that are being brought into the clinics.

Dr. Corbus (Chairman): Before the meeting closes, we would like to have a word from the President-elect of the State Association.

Dr. Carl Moll: I do not think any one man or any group of men are ready to crystallize all of the thoughts that we have had expressed here this afternoon. It will take time to think these things over. I have learned a great many things this afternoon. My conception of the Couzens Fund is rather nebulous. I was very glad to hear what Dr. Carey had to say. I think it would be a very wise thing if all the members of the medical profession in Michigan had these things put before them, and his paper and his remarks be published. Also, have him or one of his representatives go before the various medical societies of the state; that these men would have an entirely different idea of the Couzens Fund. We all received a letter that was written to the State Medical Journal, regarding the Couzens Fund. I think Dr. Carey has seen that letter; and if Dr. Carey has not seen that letter, I think he ought to see it.

Dr. Carey: I have seen it.

Dr. O'Brien: When we were first starting with the institution at Howell, and starting with the State and County Tuberculosis Sanitariums, the idea and thing was sold to the profession and the laity. Those institutions were to teach people how to take care of themselves, how to go home and take care of their folks, and take care of their relatives and other people from contracting tuberculosis. That is not so many years ago. We can recall in 1904 and 1905, and possibly as late as 1908, when this thing was first started. There was a slogan out, "No Tuberculosis in Michigan in 1930." I think Dr. Hafford remembers that slogan, "No Tuberculosis in Michigan in 1930." They were going to accomplish this by teaching people who had tuberculosis how to take care of themselves. Dr. O'Brien's statements are a little revolutionary. I do not know how the Michigan tuberculosis specialists are going to take this, that it is not a medical disease, that it is a surgical one. I am not here to argue that point with him. I do not know if any of the other men want to, but I want to say this, that we have started on a mighty progressive movement, a movement that is going to mean much to the profession of Michigan, not only to Michigan, but to the whole country, and we have got to bear the brunt of the burden of the pioneer work, and I think it is becoming to every one of us to put our shoulder to the wheel and put this thing across.

Dr. Corbus (Chairman): I want to thank the guests who so kindly came to us today and have given us so much. I am sure that what you have said to us today will go back to the profession through the Councillors. And, Doctor, by lapse, because I am not as familiar with parliamentary works as the Speaker of the House, but it has been called to my attention that I spoke of the Executive Session in which I should have said "Closed Session." The President, and President-elect from the Council meet tonight.

The meeting will now stand adjourned.

(Adjournment.)

COUNTY SOCIETIES

GRATIOT-ISABELLA-CLARE COUNTY

The May meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Park House, St. Louis, Thursday, May 14th. Nineteen members and three visitors had dinner together, after which President Harrigan called the meeting to order. Minutes of the previous meeting were read and approved. The application of Doctor L. F. Hyslops of Mt. Pleasant was presented for membership in the Society. This was referred to the Board of Censors and on their recommendation Doctor Hyslops was duly elected to membership in the Society.

President Harrigan then introduced Doctor Raphael Isaacs, Assistant Director of the Simpson Memorial Institute, Ann Arbor, who talked to the members on the different types of anemia and their treatment, illustrating the subject with lantern slides.

Some points the Doctor made were that you should give large doses of iron by mouth. He suggested ferric ammonium citrate in 50% solution, dram one, three times a day.

There is a distinct disadvantage in giving iron intravenous, because it has to get back into the intestine before it can be used by the blood.

There is not any advantage in giving iron in pernicious anemia.

No evidence that vitamins improve the hemoglobin.

No evidence that ultra-violet light is any help.

Arsenic may be beneficial in myelogenous leukemia.

One vial (10 grams) of ventriculin a day will maintain the blood after it has reached normal.

Blood can usually be returned to normal without giving HCl.

On behalf of the Society, President Harrigan thanked Doctor Isaacs for his instructive talk.

Meeting adjourned.

E. M. Highfield, M.D., *Secretary.*

MANISTEE COUNTY

The Manistee County Medical Society met at Mercy Hospital Tuesday, June 16, at 6:30 P. M., and seated eighteen at one of the dinners for which the hospital is famous—they must be eaten to be appreciated.

Following dinner regular matters of business were hurried through and Dr. C. L. Grant, President, introduced Dr. Richard R. Smith of Grand Rapids, who gave an instructive, interesting, and practical discussion of the Cancer Problem, with special emphasis on Cancer of the Breast.

The speaker presented, by means of lantern slides, a series of statistics of cases from the service of Drs. Smith and Vandenburg showing the actual improvement in the treatment of cancer of the breast as regards the mortality rate, meanwhile giving us a rapid survey of the field covered and the means by which these improvements have been made.

The Society enjoyed having Dr. Smith and wish to commend the Cancer Committee on the excellent selection of the speaker. More programs of this type will be welcome at any time.

Ellery A. Oakes, *Secretary.*

JACKSON COUNTY

The May meeting of the Jackson County Medical Society was held at the Elks Temple Tuesday evening, May 19.

Dr. Meads, who is chairman of the June picnic committee, announced that the picnic would be held at the Inverness Country Club, where golf, swimming, boating, horseback riding and bridge will be available for those attending.

Dr. Porter moved that no meeting be held in September, inasmuch as it would come about the time of the State Medical meeting. Motion seconded by Dr. Clarke. Dr. Peterson amended the motion to the effect that the matter of the September meeting be left to the Board of Directors. The amendment was carried.

Dr. Peterson announced that the probable date of the Clinic sponsored by the County Society would be the first week in November.

Dr. Clarke stated that if the Health Education Committee was to put on a health exhibit at the County Fair this year it would be necessary for the Society to donate sufficient funds for this purpose. Dr. O'Meara moved that this committee be allowed to spend an amount to be approved by the President, Secretary and Treasurer. Dr. Enders amended the motion to the effect that the committee be allowed an amount not to exceed $185. Amendment lost. Motion as made by Dr. O'Meara and seconded by Dr. Porter was carried.

Dr. Riley announced that Sample & Blackmere wish to offer a golf prize to the best golfer among the Jackson medics. Dr. O'Meara moved that this prize be accepted and competed for some Thursday afternoon during August. Motion carried.

Dr. Kudner stated that there would be a combined meeting of the Foote and Mercy Hospital Staffs next month, at which time Dr. Carl Weller of Ann Arbor would conduct a Clinical Pathological Conference.

Dr. Enders, Chairman of the Membership Committee, reported the application of Dr. Norman D. Wilson back to the Society without recommendation. It was moved and seconded that the application be laid on the table indefinitely. Motion carried.

The meeting was then turned over to Dr. Clarke, who introduced Dr. Lupfi Sa' di, who graduated from the American University of Beirut and who is now connected with Harper Hospital, Detroit. Dr. Sa' di spoke on Arabian Medicine.

UPPER PENINSULA MEDICAL SOCIETY

The thirty-fourth annual meeting of the Upper Peninsula Medical Society will be held August 13 and 14, 1931, at Houghton. Headquarters and scientific exhibits will be at the Douglass House; business and scientific sessions at the Kerredge Theater, Hancock.

The following program has been arranged:

August 13—9:00 A. M. Registration of members at Headquarters (Douglass House, Houghton).

Morning Session:

10:00 A. M. Welcome address by Dr. Hotchkiss, President, Michigan College of Mining and Technology.

10:15 A. M. Response by Dr. C. N. Bottum, Marquette, President Upper Peninsula Medical Society.

11:00 A. M. Address: Dr. C. C. Slemons, State Commissioner of Health.

11:30 A. M. Paper, Indirect Inguinal Hernia, Etiology and Treatment with Simplified Surgical Technic, Dr. F. S. Stocking, F.A.C.S., Calumet, Mich.

12:00 Noon. Adjournment for lunch.

Afternoon Session:

1:00 P. M. Paper, "Gastric Surgery," Dr. Norman Allen, Associate Attending Surgeon, Harper Hospital and Instructor in Surgery, Detroit College of Medicine and Surgery.

1:30 P. M. Paper, "Surgery of the Gall Bladder and Ducts," Dr. Waltman Walters, Surgical Section of Dr. Waltman Walters, Mayo Clinic.

2:00 P. M. Paper, "Acute Intestinal Obstruction," Dr. R. C. Stone, Battle Creek, President, Michigan State Medical Society.

2:30 P. M. Paper, "Pelvic Infections," Dr. Norman F. Miller, Iowa City, Prof. Obstetrics and Gynecology State University Iowa College Medicine.

3:00 P. M. Recess, 15 minutes.

3:15 P. M. Paper, "Surgical Kidney," Dr. Armour Fletcher, Milwaukee, Professor of Genito-urinary Surgery, University Marquette Medical School.

4:00 P. M. Paper, "Nephritis," Dr. E. K. Kerr, Chicago, Professor Internal Medicine, Rush Medical School.

4:30 P. M. Paper, "Pathology, Heart and Kidneys," Dr. V. C. Weller, Ann Arbor, Professor Pathology, University Medical School, Ann Arbor.

5:00 P. M. Adjournment.

7:30 P. M. Society Banquet for Physicians and Ladies at Douglass House.

August 14, Morning Session:

Meeting called to order at 9:15 A. M.

9:30 A. M. Paper, "Coronary Disease," Dr. N. C. Gilbert, Chicago, Specialist and practice limited to diseases of Heart.

10:30 A. M. Paper, "Some Phase of Orthopedics," Dr. V. L. Hart, Ann Arbor, Professor, University Medical School, Ann Arbor.
11:00 A. M. Paper, "Surgery of Sympathetic Nervous System," Dr. A. W. Adson, Surgical Section of Neurology, Mayo Clinic.
11:30 A. M. Paper, "Mental Health of Children," Dr. E. H. Campbell, Medical Supt., Newberry State Hospital, Newberry.
12:00 A. M. Paper, "Diseases of Rectum," Dr. Louis Hirschman, Detroit, Proctologist.
12:30 Noon. Business Meeting and Election of Officers for 1932.
1:00 P. M. Adjournment for lunch.
2:00 P. M. Golf for members desiring golf at Houghton Club.
2:00 P. M. Clinic at St. Joseph's Hospital, Hancock, Mich.

WAYNE COUNTY

Dr. H. W. Plaggemeyer, Detroit, assumed the presidency of the Wayne County Medical Society as of July 1, 1931. He will serve in that capacity for one year and will be succeeded on July 1, 1932, by Dr. H. Wellington Yates. The personnel of Dr. Plaggemeyer's thirty-three boards and committees will be announced in The Bulletin of the Wayne County Medical Society, issue of July 15, 1931. The committees will be composed of some 238 physicians and surgeons of Detroit and Wayne County.

The attendance at the four postgraduate courses held in Detroit from June 15 to June 27 was most satisfactory. The graduate subjects were fractures, internal medicine, gynecological pathology, and surgery.

The list of essayists and papers presented before the Wayne County Medical Society and the Noon Day Study Club during the 1930-31 season was published in two issues of the June Bulletin. One hundred three speakers appeared during the eight months' period from September, 1930, to May, 1931, of which seventy-nine were Detroit physicians and surgeons. Twenty-three lecturers were importations from other American and European cities. The Program Committee was most encouraged to note the large number of Detroit men who are writing and reading papers.

Dr. Frank A. Kelly, Treasurer and a member of the Board of Trustees of the Wayne County Medical Society, was honored by being elected President of the American Medical Golfing Association, an organization composed of Fellows of the American Medical Association. The election took place after the annual tournament and dinner at the Aronimink Country Club, Philadelphia, June 8. The A. M. G. A. lists some 1,000 medical golfers among its ranks.

The Cafe of the Wayne County Medical Society is enjoying great popularity these warm days. The roof garden, opened formally on May 28, is above and away from the heat and turmoil of Woodward Avenue and is always refreshingly cool and handy for the medical men to enjoy good food and quick service. During May, the Cafe served 2,024 luncheons during the twenty-five working days. Its total income amounted to $1,320.00.

Dr. Murdock M. Kerr, a member of the Wayne County Medical Society, is a candidate for election to the City Council of Detroit.

Mail handled in the Executive Office of the Wayne County Medical Society during May amounted to 2,568 pieces, of which 979 was incoming and 1,590 outgoing mail.

Harry M. Hoxsey, Director of a Detroit "cancer clinic," who was sentenced May 8 by Judge W. MacKay Skillman in Recorder's Court to serve six months in the House of Correction for practicing medicine without a license, appeared before Judge Skillman on May 29 to request permission to leave the jurisdiction of the court. Hoxsey said he had received word from his former home in Muscatine, Iowa, that his brother, Dan, had been found shot to death in an automobile there. Hoxsey said his brother had been connected with a radio station. Hoxsey's request was granted. He is at present at liberty under a $2,000.00 bond.

The Public Education Committee of the Wayne County Medical Society is now scheduling two and three radio talks over Station WEXL per week. The medical broadcasts are given on Tuesday, Thursday and Friday, 10:30 to 10:45 A. M.

The annual reports of all committees for the year 1930-31 are being published in The Bulletin of the Wayne County Medical Society. Every committee has held numerous meetings throughout the year, some as frequently as one per week. As a result, definite progress has been made by the Society.

The following resolution, passed by the Council of the Wayne County Medical Society, may be of interest:

RESOLUTION

"In view of the fact that members of the medical profession of Wayne County, Michigan, are being exploited constantly by professional and amateur advertising solicitors to insert cards in various programs, year books, magazines, calendars, etc., which usually results in veritable donations of many thousands of dollars each year by said doctors;

"Therefore, Be It Resolved: That The Council of the Wayne County Medical Society be appointed a Board of Censors to investigate each and every request of this nature, with a view to curtailing such financial inroads; and

"Be It Further Resolved: That all solicitors for said cards in programs, periodicals, and other media, whether for advertising or charitable purposes, be requested by each doctor to submit all proposals for such advertisements to the Board of Censors for approval, before said doctor invests in the scheme."

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, President, Jackson, Mich.
MRS. W. L. FINTON, Secretary, Jackson, Mich.

BAY COUNTY AUXILIARY

Dr. James W. Inches, Detroit, addressed the members of the Bay County Medical Society and their wives the evening of June 6 at the ladies' night dinner meeting at the Hotel Wehonah. After being introduced by Federal Judge Arthur J. Tuttle, Dr. Inches showed slides and movies of trips he took through Africa and made explanatory comments upon them. Several Saginaw guests were included among the seventy present.

INGHAM COUNTY AUXILIARY

The Ingham County Auxiliary closed its year on Monday, May 8, with a membership of sixty-two members. The past winter members sewed at each of the local hospitals making baby garments, surgical pads, bandages, and, just before Christmas, 200

Christmas candy bags. Three complete layettes were donated by members and were used in emergency cases. At Thanksgiving and also at Christmas large baskets of food were taken to the home of a needy physician. Members are trying to make the Ingham County Auxiliary worthy of existence and as the membership increases, accordingly will the good work increase.

New officers elected for the coming year are: Mrs. H. S. Bartholomew, president; Mrs. P. C. Strauss, vice president; Mrs. T. P. VanderZalm, secretary-treasurer.

THE DOCTOR'S LIBRARY

SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 11, number 2. (Lahey Clinic Number—April, 1931), 248 pages with 88 illustrations. Per clinic year (February, 1931, to December, 1931.) Paper, $12.00; Cloth, $16.00. Philadelphia and London.

MEDICAL CARE OF THE WAGE EARNER. Norman E. Clarke, M.S., M.D., Cardiologist-in-Chief of Grace Hospital, Consulting Cardiologist North-End Clinic. 1931. Herald Printing Company, Detroit.

This is a most interesting little book. In ten well written chapters the author has analyzed the medical situation as it obtains particularly in the larger cities. He has discussed the economic background, describing clearly the condition in which the wage earner finds himself a dehumanized factor in industry to be cast aside when invention has displaced him by the automatic machine. He has been the victim of high pressure salesmanship coupled with low "sales resistance" and installment buying. Even if employed, he is usually unable to meet the emergency of sickness in his home. Hence the free clinic. The wavering faith of the public in the medical profession as evidenced in popular magazine articles is discussed at length. This Dr. Clarke considers only of a transitory nature, after which the physician will establish himself more firmly than ever in public estimation. The medical profession itself also comes in for critical examination. Three chapters deal with industry. Then we have a plan for medical care of the wage earner and his family. Whether one agrees entirely with the author's conclusions the book is thought provoking and therefore worthy of attention as a constructive contribution to the subject.

PRACTICAL X-RAY TREATMENT. By Arthur W. Erskine, M.D., Roentgenologist to St. Luke's Methodist Hospital and Mercy Hospital, Cedar Rapids, Iowa, member and past president of the Radiological Society of North America, member of the American Roentgen Ray Society, Chairman of the Section on Radiology of the American Medical Association, fellow of the American Association for the Advancement of Science and of the American College of Radiology, member of the Committee on Standardization of X-ray Measurements of the Radiological Society. The Bruce Publishing Company. St. Paul, Minnesota. Price $3.50.

This small book is primarily intended for roentgenologists who are forced to do X-ray therapy under circumstances which satisfy only the essential requirements. It is devoted entirely to the author's methods with no attempt to consider the different opinions of various writers. The entire subject is covered in a brief and direct manner without sacrificing anything essential. The chapters devoted to the theory and physics of X-ray treatment are not burdened with the usual complicated mathematical discussions and formulæ. The absolute (r) unit of dosage is used and only the most accurate methods of measurement are described, thus eliminating much confusion. The author believes that the first essential for successful X-ray therapy is accuracy of dosage. This he thinks can best be obtained by using the fewest possible technical factors. Therefore only three technics are described in the treatment of pathological conditions by means of the usual "10 inch" apparatus. A fourth technic is described which is suitable for equipment of 200 kilovolts capacity. In view of the wide variety of technics in use and the variation in the results obtained it seems that this viewpoint cannot be over-emphasized. The conditions suitable for X-ray therapy are considered under three headings, namely, skin diseases, non-malignant conditions and malignant conditions. Practical suggestions for the medical care and management of patients receiving irradiation are also included. There are twenty-eight illustrations, including curves, tables and isodose charts. There is indeed need for just such a work as this and we have seen none to date which better fulfills the purpose for which it is intended. Everyone who is at all interested in X-ray treatment should have it. Dr. Erskine's name is sufficient recommendation.

COLLECTED PAPERS 1904-1929. By Edwin Beer, M.D., New York. With 252 Illustrations. Pages 827. Paul B. Hoeher, Inc., New York, 1931.

This volume consists of a collection of medical papers on a variety of subjects covering a period of a quarter of a century. It is made in the attractive style for which the Hoeber publications are noted. The subjects are chiefly surgical. They are classified under gastrointestinal tract, papers on the liver, on the spleen, on the spinal cord, concluding with a number of miscellaneous topics. Those who have been familiar with the author's work over this period will welcome this work in which they may have the results of Dr. Beer's studies assembled between convenient covers.

CLINICAL DIAGNOSIS BY LABORATORY METHODS, A WORKING MANUAL OF CLINICAL PATHOLOGY. By James Campbell Todd, Ph.B., M.D., late professor of clinical pathology, University of Colorado School of Medicine and Arthur Hawley Sanford, A.M., M.D., professor of clinical pathology, University of Minnesota (The Mayo Foundation), Head of Section on Clinical Laboratories, Mayo Clinic. 7th ed., thoroughly revised with 347 illustrations, 29 in colors, 765 pages. W. B. Saunders Co., Philadelphia, 1931. Price, $6.00 net.

Another edition of this standard work on laboratory technic and diagnosis is to be welcomed. The numerous changes in text, distributed throughout the work, bring it up to date. A forty page index and an outline index of the laboratory findings in a number of diseases make the subject matter readily available.

HEART DISEASE. Paul Dudley White, M.D., Instructor in Medicine, Harvard Medical School; Physician Massachusetts General Hospital, Boston. Pages 931. Price $12.00. New York. The Macmillan Company. 1931.

This is preeminently a work on heart disease. Such subjects as anatomy, physiology, pathology, pharmacology, while important, are incidental to the main theme of the work. The reader is referred to authoritative works on such subjects that deal more exhaustively than is desirable in a book of this nature. The volume is divided into four parts. Part one deals with the examination of the patient and an evaluation of his symptoms; the second part discusses the causes of heart disease; the third part, the structural changes present in the heart and great vessels, and the fourth part takes up disorders of function. "No longer in the diagnosis of heart disease," says the author, "can we be content to think of pathology alone, nor yet should we abandon the structural changes to think of function alone." The author would add also to these a third, namely, the etiological factor. The subject of treatment of each

condition is included in the chapter or section dealing with that condition. When we consider the place that deaths from cardiac disease occupy in the mortality statistics in the country, the importance of such a work as this cannot be over-estimated. It is a work not only for the specialist in heart disease, but also for the general practioner who meets these cases first. Among the many excellent chapters, one to which we call particular attention is that on cardiovascular roentgenology. If a study of the contour, size and position of the heart is of any importance at all to the physician or cardiologist, it seems to us that X-ray examination should be employed much more extensively that it has ever been. There is no other part of the human anatomy that lends itself more admirably to X-ray examination than the thoracic cage with its contents. In the chapter mentioned the author goes into detail in the matter of a contribution of roentgenology to cardiovascular disease. The author has appended a bibliography of over 200 pages; also an extensive list of questions or problems the study, and as far as possible the solution, of which would extend as well as crystallize one's knowledge of the subject.

HANDBOOK OF PHYSIOLOGY. W. D. Halliburton, M.D., LL.D., F.R.C.P., F.R.S., Emeritus Professor of Physiology, University of London, King's College, and R. J. S. McDowall, M.B., D.Sc., F.R.C.P. (Edin.), Professor of Physiology, University of London, King's College. Nineteenth Edition with numerous illustrations in the text, many of which are colored plates. Philadelphia. P. Blakiston's Son and Company, 1012 Walnut St. 1930. Price, $4.75.

This nineteenth edition has followed closely upon its immediate predecessor, which it has been the reviewer's pleasure to review at length in a comparatively recent number of this Journal. Many of the older generation of doctors in this State have a kindly interest in Halliburton's and McDowall's Handbook of Physiology or Kirk's Handbook of Physiology as it was originally called. This work was originally a product of old St. Bartholomew's Hospital, London. The first edition appeared in 1848. The present authors, Halliburton and McDowall, have maintained an active interest in keeping the book revised so as to embody the latest advances in the science of physiology. In this nineteenth edition the revision has involved almost every page either in new material or re-arrangement of the order within the chapters. Comparing the present edition with its predecessors, general physiological processes have been emphasized rather than the functions of isolated organs.

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioner's Index. Editors: Carey F. Coombs, M.D., F.R.C.P., and A. Rendle Short, M.D., B.S., B.Sc., F.R.C.P. Twenty-nine Contributors. Forty-ninth Year. 1931. New York. William Wood and Company. Price $6.00.

This work, as is well known, deals with the recent advances in medicine and surgery. The subjects are arranged alphabetically. They are covered with as much detail as the scope of 525 pages will permit. The work is well illustrated and very carefully indexed. When a work has been before the profession for forty-eight years, a new edition needs scarcely more than an introduction. The present work will be found an admirable desk companion not only for the general practitioner, but those engaged in the various specialties as well.

NUTRITION AND DIET IN HEALTH AND DISEASE. By James S. McLester, M.D., Professor of Medicine at the University of Alabama, Birmingham, Alabama. 2nd. ed., revised and reset, 891 pages. W. B. Saunders Co., Philadelphia, 1931. Price, $8.50.

The second edition of this work is a fairly comprehensive and up-to-date summary of the field of nutrition. It deals with metabolism, digestion, nutritional factors, food products, the normal diet and the feeding of infants. Throughout, the medical viewpoint is emphasized as indicated by the treatment of deficiency diseases, diabetes, gout, obesity and leanness, anaphylaxis and food poisoning, diseases of the urinary tract, of the digestive organs, of the heart and arteries, of the blood, of the joints, of the nervous system, and of the endocrine organs and skin. There is a section on the feeding of surgical patients. Tables of weight and height, food values, chemical composition of foods and special methods of feeding are included. Throughout the work the author quotes much recent work, dealing with it in a moderate way, sometimes, however, to the extent of vacillating from one extreme position to another. A good bibliography appears at the end of each chapter and the inclusive index renders it a good desk reference.

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CONTENTS

Diagnosis and Treatment of Common Skin Diseases of Childhood. Clark W. Finnerud, M.D. 577
Sepsis in Infancy and Childhood. I. A. Abt, M.D. 585
Ileus with Report of Two-Stage Operation. Harry B. Knapp, M.D., F.A.C.S. 591
Excretion Urography. G. C. Burr, M.D., F.A.C.S., and B. Dovitz, M.D. 595
Peptic Ulcer: Experiences in the Treatment of 108 Cases. H. C. Saltzstein, M.D., S. G. Meyers, M.D., and D. J. Sandweiss, M.D. 601
The Damaged Heart in Industry. Edwin M. McIlvain, M.D. 606
Ophthalmic Conditions of Children in the Rural Parts of Michigan. Gerald D. Spero, M.D. 611
Cervical Ribs. J. C. Webster, M.D. 615
Arterial Hypotension. M. A. Mortensen, M.D. 616
Anemia in Chronic Nephritis. Lloyd E. Verity, M.B. (Tor.), F.A.C.P. 619
Medicine in Russia—As a Laymen Sees It. Colonel Edwin S. George 622
Famous Men in Medical History: William Shippen, Junior, and the Early Development of American Obstetrics. Charles M. Burgess, M.D. 626
Oakland County Medical Society 633
Michigan's Department of Health. C. C. Slemons, M.D., Dr.P.H. 635
Editorial:
The Annual Meeting 637
A Layman's View of Medical Russia 637
Unemployment Insurance 638
Public Health Education 638
Normal Gastric Acidity 639
The Damaged Heart in Industry 639
How It Is after Great Wars 640
Correspondence 640
General News and Announcements 642
Society Activity:
Oakland County Greets You for the 111th Annual Meeting—September 22, 23, 24, 1931 644
Official Program 658
County Societies 667
The Doctor's Library 668

DIAGNOSIS AND TREATMENT OF COMMON SKIN DISEASES OF CHILDHOOD*

CLARK W. FINNERUD, M.D.†
CHICAGO

Aside from the exanthematous fevers, syphilis, and birth-marks, probably the most important and common dermatoses of infancy and childhood are impetigo, scabies, ringworm, seborrheic dermatitis and eczema. To this list might well be added lichen urticatus and perleché, because, though not ordinarily recognized as such, they are commonly encountered. About half of the above group are of infectious origin. The list of cutaneous disorders affecting infants and children comprises many important diseases, but fortunately most of them are rare. Certain common ones, such as intertrigo, prickly heat, pediculosis, warts, etc., are of so little importance as scarcely here to require mention.

IMPETIGO CONTAGIOSA

Impetigo, a disorder practically devoid of subjective symptoms, is essentially a disease of childhood. The lesions occur, for the most part, on the exposed parts of the body, the hands and face. Although not contagious, as implied by its name, it is highly infectious. When one child of a family has it, unless treatment is instituted promptly, usually several or all of the children become affected.

*Read before the Michigan State Medical Society, Benton Harbor, September, 1930.

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Impetigo contagiosa is due to bacteria, streptococci chiefly, which presumably are present to some extent normally on the skin of all of us. They gain access into the skin at the site of an abrasion, such as might occur from a scratch, a cut, or picking the face with dirty fingernails, or the disorder may occur secondarily to a "running" nose or ear. It spreads rapidly, several or many lesions being present within a few days after the disorder is contracted. It may be transmitted from one individual to another from the use of a common towel or washcloth and by all forms of intimate contact.

The lesions are usually split-pea to coin sized, serous crusted, discoid, more rarely circinate, plaques. The crust is ordinarily larger than the underlying inflamed area; that is, it overlaps the true lesion. It is best described as being of "stuck on" appearance. In the average case there are less than a dozen lesions present.

In infants, this eruption is not uncommonly a bullous one and is, therefore, properly spoken of as *bullous impetigo* and improperly referred to as "pemphigus neonatorum." The latter name is to be condemned, in that the disorder is in no way to be considered a form of pemphigus. Bullous impetigo sometimes spreads through a hospital ward rapidly, many or all of the infants becoming afflicted, and in some instances it is responsible for a fatal termination.

In children and adults rarely, if ever, do serious consequences occur, and certainly never in properly treated cases.

Impetigo in rare instances may be confused with herpes simplex, ecthyma, pustular eczema and ringworm.

Extralabial herpes simplex begins as a group of papulovesicles in an infiltrated and sensitive area and the lesions usually remain but one or two in number, clearing spontaneously in the course of about a week. Often there is history of similar lesions having occurred in the same area.

Pustular eczema occurs in larger patches and usually is much more extensive, affecting largely the face, scalp and the folds of the flexor surfaces of the extremities, infiltration, weeping and itching being outstanding characteristics.

Ecthyma, similar as it is to impetigo, is a much more formidable process, the lesions being larger, deeper-seated, and with a reddened infiltrated areola.

Ringworm, particularly as it affects the glaborous skin, is sometimes confused with impetigo. It is necessary in such an instance to examine scrapings of the lesion in hydroxid, a procedure which takes but a couple of minutes, and if it is ringworm the fungi will be readily demonstrable when the preparation is examined under the high dry power of the microscope. The technic of this extemporaneous examination follows, and it is applicable for practically all fungi that affect the skin, hair or nails, as well as for cutaneous parasites. The scale, hair, nail-scrapings, vesicle-roof, or papule is transferred to a clean glass slide and a cover-glass is applied. Two or three drops of ten per cent to twenty per cent sodium or potassium hydroxid are allowed to run in under the cover-glass, and the specimen is then heated gently for a few seconds. This minimizes the appearance of the cutaneous cells, in case it does not disintegrate them altogether, and leaves the highly refractile yeasts, true fungi, and parasites and their ova outstanding. This method of examination should be routinely employed in the diagnosis of scabies and all types of ringworm, and it is indispensable in the diagnosis of certain other cutaneous affections, such as blastomycosis and actinomycosis.

Impetigo of the bearded region of adult males, commonly contracted in barber-shops, is usually diagnosed "barber's itch." This is a mistake, as "barber's-itch" is ringworm of the beard, a very rare disorder and one usually seen in farmers, the result of attending infected cattle.

The mercury group, properly employed, is the treatment of choice in cases of impetigo. The parts should be bathed morning and evening for about ten minutes with a warm solution of mercury bichlorid, this varying from 1:2000 to 1:5000 in strength. Following the bathing in the morning a calomel dusting powder of about 12 per cent strength should be applied, this to be left on during the day. The formula for such a powder would be: Mild chlorid of mercury, 4 grams; boric acid, 4 grams; and equal parts of starch and talc to make 30 grams. Following the bathing at night, an ointment containing from 3 to 6 per cent of white precipitate should be used, this to be left on over night. In case the inflammatory element is particularly marked, which is not usually the case, it is best to combine the

white precipitate with a naftalan ointment of 10 per cent strength. The formula for such an ointment would be: Ammoniated mercury, 1 gram; naftalan, 3 grams; starch and zinc oxid, each 8 grams; and petrolatum sufficient to make 30 grams.

In that there is perhaps one individual in a thousand who is hypersensitive to mercury preparations, in his particular instance it is necessary to stop the mercurial preparations and to use such a treatment as potassium permanganate bathing of the parts followed by rather mild sulphur preparations.

The above measures will manage practically any case of impetigo within five to ten days, it rarely being necessary for the individual to make a second visit.

SCABIES

Scabies is caused by an animal parasite, the *Acarus scabiei,* which burrows in the topmost layer of the skin. The organism is of much the same appearance as a louse, but much smaller, being scarcely visible to the naked eye.

Almost invariably the itching is worse at night, after the body has become warm in bed. Considerable itching is often experienced during the day, however, when the body has become warm from exertion, from exposure to an overheated room, or from the wearing of excessive clothing. Usually there are innumerable parasites present before the afflicted individual is well aware of the fact that he has a skin disease. If one member of a family is affected, usually several or all of them are. Most commonly the disorder is contracted through occupying a bed with an infected individual. The sites of predilection are the trunk and extremities, there being no sign of it above the collar bone or below the ankles, except in infants. The most typical lesions are seen between the fingers and on the wrists, and here they exist as about match-head sized vesicopapules, on the surface of some of which are seen a delicate, black, thread-like, straight or curved line which varies from an eighth to a quarter of an inch or more in length. These lines are the visible paths of the parasite in the skin and consist of a furrow filled with dirt, eggs, and excrement of the organism. Usually there are a dozen or more eggs in each furrow, and at one end of it is the parasite. The eggs give rise to new parasites which crawl out onto the surface of the skin. Here the females, which are the only ones that burrow, are fertilized, the males remaining on the surface. The female perishes after burrowing and laying her eggs. On regions other than the hands, wrists, genitals, and buttocks the lesions exist chiefly as papular excoriations about the size of a pin's head, lesions which can hardly be recognized as those of scabies, at least without microscopic examination.

In every case of suspected scabies, the organisms or the ova should be demonstrated under the microscope, by way of clinching the diagnosis, this even in the presence of rather definite clinical history and findings. This is done by slicing off the top of a lesion, putting it on a glass slide, applying a cover-glass, and allowing two or three drops of 10 to 20 per cent sodium or potassium hydroxid to run under the cover-glass. After gently heating such a preparation, microscopic examination will reveal a parasite or its ova, or both, in case one is dealing with scabies.

Scabies need be differentiated chiefly from pediculosis corporis, pruritus hiemalis and eczema. Pediculosis manifests itself as papular excoriations of the trunk and extremities combined with linear scratch-marks on the parts easily accessible to the hands. The itching is worse during the day. The organisms may be found in the underwear, particularly in the seams, and the ova attached to body hairs.

Pruritus hiemalis occurs on the legs, thighs and forearms chiefly, the genital region and hands being free. There is no initial eruption in this disorder, the skin changes, aside from dryness, being merely the result of scratching; in other words, a traumatic dermatitis. The itching occurs upon disrobing, when the cool air strikes the skin, rather than after retiring.

Eczema is readily differentiated from scabies by the presence of infiltrated patches, whereas in scabies the lesions are discrete.

Probably the best treatment is the old-fashioned sulphur treatment, which consists of applying a sulphur salve for five successive nights. After taking a scrub-bath the infected individual should apply the salve from the neck to the ankles, including the hands. A suit of underwear with long sleeves and legs should be worn continuously night and day, it becoming permeated with the sulphur, and thin cotton gloves should be worn at night. On the morning following the fifth application of the salve a cleansing bath is taken and clean clothing put on.

Some itching may persist, but it is due to irritation of the skin by the sulphur. This ordinarily is allayed by a few daily applications of olive oil. For infants and young children a 5 to 7 per cent sulphur ointment is used; for middle-aged children a 10 per cent ointment is employed; and for adults one of 15 per cent strength. The sulphur should be put up in ungt. petrolatum to which about 20 to 25 per cent of lard has been added. Another sulphur preparation, one of rather complicated formula, known as the Danish ointment, constitutes a fairly satisfactory remedy for this disease, its greatest advantage being the fact that supposedly but a single application of it is necessary. Having seen many recurrences of the disorder from a single application of it, however, it has been found advisable to use it for two successive nights, by which procedure it is effective, though more irritating to the skin than is the former preparation.

RINGWORM

Ringworm of the Scalp.—Ringworm is a disease of the skin, hair, and nails which is produced by numerous varieties of parasites belonging to the large group of fungi. In children, ringworm is seen chiefly in the scalp, and practically all the cases of ringworm of the scalp are in children. There are three general varieties of ringworm in this area. The organism most commonly responsible for the disorder is the *Microsporon audouini,* and in fresh sodium or potassium hydroxid preparations is seen the hair stump so thickly surrounded by small spores as to give it the appearance of a mosaic. About 95 per cent of the cases of ringworm of the scalp are of this type. The disorder is highly infectious, as is illustrated by the fact that if one child of a family has it, usually several or all of them contract it. There are few or no subjective symptoms, and the disorder disappears spontaneously, for some unknown reason, at the age of puberty.

This type of ringworm begins as one or more patches in which the hairs appear to be nibbled off a few millimeters above the level of the scalp. These patches gradually enlarge and fuse, not uncommonly to such an extent as to involve practically the entire scalp. Ordinarily, however, there are present from three to a dozen such patches. Many of the hair stumps have a whitish sheath about them, and the patch in general has the appearance of having been strewn with ashes, this grayish appearance being due to a fine scaling in the area. There is usually no redness or other sign of inflammation of the underlying scalp. Permanent baldness does not result from this type of ringworm.

The next most common type of ringworm of the scalp is called "kerion" and, unlike that just described, is moist. Although it is seen most commonly in children, it sometimes occurs in adults. This variety is usually contracted from playing with animals that are infected with the causative organism, most commonly dogs and cats. This variety constitutes only about three per cent of the cases of ringworm of the scalp. Apparently it is not so infectious as the type previously described, but the infected child should not be allowed to attend school until he can be pronounced non-infectious. This type usually occurs as from one to three or four swellings, varying in size from that of a hazelnut to that of a hen's egg. The swellings are somewhat tender. Not uncommonly the lymph glands of the neck are slightly enlarged. The lesions of the scalp are soft and feel as though, upon puncture, pus would be evacuated, but they do not contain pus. The hairs in the area are usually broken off at various lengths, and the inflammation present pushes these hairs from their follicles in the course of a few days or weeks. From the gaping follicle mouths a colorless, syrupy fluid exudes. Any hairs in the area can be pulled out like pins from a pin-cushion. After a variable period of time, usually several weeks, the disorder clears up spontaneously, but proper treatment hastens the disappearance of the lesions and prevents the spread of the infection to other parts of the scalp and to persons with whom the affected individual is associated. Scarring, with baldness, usually results from this type of ringworm.

The spread of the infection is prevented and the duration of the disorder is lessened if a ten to fifteen per cent sulphur or white precipitate ointment is used on the lesions morning and evening, and applied to the entire scalp once weekly.

A third type of ringworm of the scalp, the rarest type, occurs as black dots, the size of a pin-head or smaller, scattered over the scalp. Ordinarily, it can be detected only by the expert eye, although sometimes it is first noticed by the observant mother or attendant when she is shampooing the child's hair.

It causes very little loss of hair and is responsible for no irritation. This type, like the first described, is of human origin. The black dots mentioned may be seen even in individuals with light hair. They are produced by the growth of a single hair curled upon itself beneath a small transparent scale. No scarring results.

So far as the treatment of the first and last mentioned varieties is concerned, local treatment in the form of ointments and lotions is effective in something less than 50 per cent of the cases. The ointments commonly used are strong salicylic acid preparations, such as the so-called "Whitfield ointment," which contains six per cent salicylic acid and twelve per cent benzoic acid in petrolatum, or an ointment containing twelve per cent of iodin crystals in goose grease, these preparations to be rubbed into the patches nightly.

In case the individual does not respond satisfactorily to these or similar simple local measures, it may be necessary to produce complete epilation of the scalp either by means of the X-ray or by the ingestion of thallium acetate. Neither one of these measures is without danger, and they should not be resorted to if the child is near the age of puberty, in which case it is best that he be allowed to outgrow the disorder. The dosage of thallium acetate must be measured extremely accurately, according to the weight of the individual. It is given in a single dose by mouth. The hair falls in between two and three weeks after the drug has been administered and begins to return in the course of about three months. X-ray epilation of the scalp hair should be carried out only by one skilled in this procedure, by way of avoiding, to as great an extent as possible, the dangers which may arise from improper X-ray administration.

Ringworm of the Body.—Ringworm of the body usually occurs as from one to a dozen red rings varying in size from a half-inch to an inch and one-half in diameter. In the beginning the lesions are usually solid discs, but within a few days after their appearance they clear in the center, thus forming a circle. The lesions may be of the dry type, there being only redness and scaling, or they may be of the moist type, in which case there are small vesicles at the outer edge of the ring, the vesicles later becoming small crusts. One type occurs with about the same frequency as the other, and in any given instance the lesions are entirely of one type. There are itching and other sensations, but they are usually mild. Ringworm of the body is commonly, but not always, contracted from the handling of cats, dogs, and other pets whose hairs are infected with the fungi. If there are several children in the family, usually more than one is affected and not uncommonly the mother or nurse also. This type of ringworm responds readily to proper local preparations, the so-called Whitfield ointment usually proving effective.

Ringworm of the Hands, Feet, Crotch, and Armpits.—Ringworm of the hands and feet is deserving of separate description, because it has certain characteristics not seen in the other types of ringworm of the body. It is most often contracted from walking barefoot on floors infected with the causative organism, notably those in shower rooms and gymnasiums. Usually this variety begins between and under the toes as an itching, fissuring, and maceration of the skin. Later, vesicles usually appear on the soles and sides of the feet. These vesicles are deep-seated; they tend not to rupture spontaneously but to dry up and leave brownish keratoses at their sites. The disorder is almost invariably worse in hot weather. Itching is usually periodically intense, and, as a result of scratching the feet, the individual transfers the organisms to the other parts of the body on which they will grow. It is a peculiar fact that the organism usually will grow readily only on the feet, hands, crotch, and armpits. The eruption seen on the hands frequently is almost identical with that occurring on the feet, but the organisms rarely can be demonstrated in the hand lesions. It is thought, therefore, that the hand eruption is usually a toxic form of dermatitis, the result of absorption from the foci on the feet.

Although ringworm of the feet is not so common in children as in adults, it is, nevertheless, not infrequently encountered.

Ringworm occurs in the crotch and armpits as diffuse, red, scaling areas which itch intensely and have the appearance of irritation produced by chafing. As it occurs in these areas, it is the disorder referred to as eczema marginatum or "gymnasium itch."

In spite of the fact that ringworm in its various forms may simulate a good many disorders, an accurate diagnosis of it can al-

ways be made by means of the hydroxid examination described above.

Fortunately, ringworm of the hands, feet, crotch, and armpits is usually easily remedied, a fifty per cent to full strength Whitfield ointment usually managing it successfully within one to three weeks. Chrysarobin in five to ten per cent strength in petrolatum or traumaticin is also serviceable, but it should be used only until it has set up an inflammatory reaction, usually five to ten days, at which time a soothing ointment such as Lassar paste (U.S.P.) or zinc oxid ointment (U.S.P.) should be substituted for it. The chief drawback, so far as chrysarobin is concerned, is the fact that it stains badly.

LICHEN URTICATUS

Lichen urticatus is a form of urticaria which is peculiar to infants and children, and which ordinarily disappears spontaneously at the age of puberty. Its cause is unknown. It is characterized by repeated exacerbations, periods of quiescence, and relapses. These cases seem to be more numerous and more severe during the warmer months. The lesions occur chiefly on the trunk and extremities, evidence of the disorder for some reason very rarely being observed on the exposed portions of the body. For the most part, the lesions make their appearance during the night. They consist primarily of match-head to pea-sized wheals, not unlike a mosquito-bite in appearance, in the center of each of which a minute papule or vesicopapule forms. Because of the severe itching the child scratches this new lesion, thus excoriating the papulovesicle, and a small crust forms at the site. The urticarial lesion disappears within an hour or two, so that all that remains at the site is a papular excoriation. Therefore, when the patient is examined during the day, one simply sees blood-crusted, papular excoriations disseminated over the trunk and extremities, although there may still exist around some of these lesions a pinkish areola representing the site of the former wheal. Not uncommonly, marked dermographism can be demonstrated in these patients by drawing the finger nail or an applicator across the skin in any place.

Lichen urticatus must be differentiated chiefly from scabies. In scabies there usually is a history of other members of the family being similarly affected, and there are characteristic lesions in that disorder from which the organism and its ova can be readily and practically invariably demonstrated. It has been said that prurigo sometimes requires differentiation from lichen urticatus, but the similarity is rather far fetched, prurigo being more like papular eczema. Prurigo, though seen rather commonly in Austria and other European countries, is an extremely rare cutaneous disorder in this country.

The treatment of lichen urticatus is far from satisfactory, but these patients can be given considerable relief during their attacks and can be assured that they will recover from the disorder eventually. Internally, sodium bicarbonate in three to ten grain doses in syrup of rhubarb, given after meals, is probably most often of service. Locally, antipruritic lotions and ointments are indicated, one of the most serviceable of which is a lotion composed of equal parts of black wash and olive oil, to which has been added 15 c.c. of liquor carbonis detergens to the eight ounce mixture, this to be applied as necessary for irritation.

ECZEMA

Eczema is a chronic inflammatory disease of the skin which affects persons of all ages and is particularly common in infants and young children. Until recently it was considered the most common skin disorder. Many disorders which previously were diagnosed as eczema are no longer so classified. More and more has been learned about the causes of these various eruptions, and at the present time there remains very little to represent the term eczema. Some authors even class this as "sensitization dermatitis," thus entirely disposing of it.

Eczema is non-infectious and is produced by both external and internal agents in an individual whose skin is sensitized to these agents. Very little is known concerning the internal factors of most importance which are capable of producing eczema. Eczema, therefore, is a form of sensitization dermatitis, and in any given case one might also find that there is a history of the individual having other sensitization disorders, such as asthma, hay fever, and hives. Foods of all kinds, carbohydrates and fats as well as proteins, may be important causative factors. Not uncommonly a mother observes that her child's condition is aggravated by the eating of eggs, or foods containing eggs, or other

foods, but usually it remains for the physician to make such a discovery. Although a physician can ascertain by skin tests the foods to which the individual is sensitive, the elimination of these from the diet often does not remedy the trouble. The disorder is by no means entirely due to food sensitization, as it is too generally regarded to be.

Eczema in infants and children occurs as a redness, scaling, swelling, and crusting in large, ill-defined areas. It usually affects most markedly the face, the neck, the front surfaces of the upper extremities, and the back surfaces of the lower extremities. A particularly common site is the bend of the elbows and knees. However, any and all surfaces of the body are susceptible to it, and there are all grades of severity. Vesication, pustulation and papulation may be present in varying degrees. Itching is a very prominent and distressing symptom. The disorder usually begins within the first few weeks of life, and in a large percentage of the cases, either because of treatment or in spite of it, clears up permanently by the time the child is a few months or a few years old. In a small percentage of the cases, however, perhaps ten per cent, the individual is troubled to some degree for many years, or throughout life, although the eruption tends to be more or less periodic.

The care of the general health of a patient with eczema is of importance. So far as diet is concerned, carbohydrates and fats should be limited. Any articles of diet which can be demonstrated practically, rather than by positive cutaneous tests alone, to be contributing factors, should be avoided.

Although arsenic in the form of Fowler's solution is the drug of choice in the treatment of eczema, it should not be employed in the instance of infants or young children. Infants, particularly if obese, are usually benefited by the taking of calomel, grains one-twentieth to one-tenth, three times daily for periods of two or three weeks. Of service, also, is sodium bicarbonate in three to ten grain dosage, in equal parts of syrup of rhubarb and water, a teaspoonful being given three times daily. In the instance of older children, arsenic may be used, beginning with three drops of Fowler's solution, three times a day, after meals, and gradually increasing up to eight or ten drops. Or it may be desirable to administer the arsenic in the form of the Asiatic pill. This pill can be obtained in dosages from one-sixty-fourth grain of arsenic trioxid up to one-ninth grain. In any instance, when arsenic is being employed the urine should be tested for albumin every two or three weeks by way of determining the presence or absence of any kidney irritation from its use.

There are many local preparations which are serviceable in the treatment of eczema. Chronically infiltrated patches respond best to some of the more stimulating preparations, notably tar. The formula for such an ointment is as follows:

℞:

Crude coal tar	2
Zinc oxid	2
Petrolati qs.	30

Sig. External use.

For routine use, however, and particularly for acute exacerbations, one will usually receive gratifying results from the use of a ten per cent naftalan or a two per cent ichthyol ointment, Lassar's paste being a desirable base. The formulæ for these are as follows:

℞

Ichthyolis (Merck)	2
Amyli pulv.	
Zinc oxid. aa	25
Petrolat. q.s.	100

℞

Naftalan	10
Amyli pulv.	
Zinc oxid. aa	25
Petrolat. q.s.	100

Ointments should be applied continuously to involved areas, a fresh application being made morning and evening, the former application having been cleansed off first with olive oil. Soap and water should be avoided on all involved areas.

So long as the child scratches, the eczema will persist. It is therefore often necessary, particularly with infants and young children, to apply a mask and splints.

Lotions are poor substitutes for ointments in eczema.

One is justified in certain instances, but never in the case of infants, and when the treatment can be carried out by the hands of one versed in treating the skin in this manner, in employing a limited amount of roentgenotherapy on obstinate patches. This is very effective but equally dangerous if not properly done. Ultraviolet irradiation is sometimes of service but is far from dependable. Nonspecific protein therapy often

accomplishes a great deal in the treatment of this disorder, but here again infants must be omitted from such therapy.

SEBORRHEIC DERMATITIS

Seborrheic dermatitis is one of the most common inflammatory skin diseases. It affects all ages but is particularly common in children. While it is probably an infectious disorder, it is not transmitted from one individual to another. Internal factors, the nature of which often cannot be ascertained, undoubtedly are of importance in many cases.

As it occurs on the scalp, a very common site for it, it resembles what might be considered a severe form of dandruff. There is profuse, flaky scaling and crusting, diffuse or patchy, on an itchy, inflamed scalp. In ordinary dandruff, the underlying scalp is not inflamed. The earliest manifestation of seborrheic dermatitis is often the scaling and crusting of the crown of the head of infants which is known to mothers as the "milk crust" or "cradle cap." Seborrheic dermatitis commonly occurs on the face and in its mildest form resembles what is popularly spoken of as "chapping." Red, scaling patches of various sizes occur on the chin and cheeks, at the angles of the nose, and elsewhere. One of its most common manifestations in children is redness, scaling, weeping, and crusting behind and in the ears. This is usually associated with scaling in the eyebrows, inflammation of the eyelids and particularly of the lid margins, and involvement of other areas to varying degrees. Any area of the body may be affected except the palms of the hands and the soles of the feet; these areas are never involved because they have no sebaceous (fat) glands. The disorder is an inflammation of the fat glands of the skin, presumably associated with an infection of these glands. In various respects it is so much like some forms of eczema that it often cannot be differentiated sharply from it. Hairy areas, as well as surfaces which are in apposition, are much more likely to be involved than is the case with eczema, such as the scalp, pubes, axillæ, and groins. Seborrheic dermatitis is also frequently seen on the chest and back.

One who is subject to seborrheic dermatitis may have it in one form or another at intervals throughout life almost regardless of treatment, but this is not the rule. In other words, while treatment is of definite value, a person afflicted with the disease cannot be assured that he will never again be affected.

The treatment of seborrheic dermatitis is essentially the same as that of eczema. In the scalp and other hairy areas, best response is usually obtained from the use of mild salicylic acid, sulphur, or ammoniated mercury preparations, these being used in two to five per cent strength, put up in a plain grease such as petrolatum or unguentum aqua rosa.

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OBSERVATIONS ON THIOCYANATE THERAPY IN HYPERTENSION

William C. Egloff, Lyman H. Hoyt and James P. O'Hare, Boston, state that their results with thiocyanate therapy in hypertension, interpreted in the light of conservative control and with due consideration for the disagreeable symptoms produced, were so nearly uniform that they should at least serve as a warning against too great enthusiasm for this drug. Of twenty-five patients only two reacted favorably to the administration of sodium thiocyanate and even in these two the reaction was not particularly striking or different from what is seen in many other patients who have had no treatment whatever. In the remaining twenty-three cases, not only did the drug fail to lower the blood pressure or relieve the symptoms, but it produced very disagreeable side effects.—*Journal A. M. A.*

INTERSTITIAL KERATITIS

In a check-up examination of sixty-seven persons five years after all active symptoms of interstitial keratitis had subsided under intensive antisyphilitic treatment, Maude Carvill, Boston, noted that in twenty-three cases the vision had improved, in thirty-two it had not changed, in nine it was not as good, and in three data were not available. In five of the nine cases in which the vision had failed there were other complications such as cataract, choroidal changes in the macula, glaucoma secondary to marked chorioretinitis of diabetes, exophthalmic goiter, and phlyctenular keratitis. In none of these sixty-seven cases has there been a recurrence of interstitial keratitis during the five years. One patient, however, had a syphilitic iritis; one had a cataract; one had an acute glaucoma secondary to a severe diabetic chorioretinitis, and one had phlyctenular keratitis.—*Journal A. M. A.*

SEPSIS IN INFANCY AND CHILDHOOD*

I. A. ABT, M.D.†
CHICAGO

Septic infections occur during every period of life from infancy to senescence. It is the purpose of this paper to give in brief the mechanism of infection and the defense reactions of the organism, particularly as they occur during young life.

Our conceptions concerning sepsis have been continually modified by important advances in immunology and bacteriology. Since the study of bacteriology first began we have gradually learned about the morphology and the action of groups of microörganisms, their virulence, pyogenic properties, their tendency to produce toxins, and their recovery from the blood stream. Numerous fruitful investigations have been made along this line, and an entirely new vista of knowledge has been brought to light.

Almost any pathogenic microörganism, Schottmüller maintains, may be the cause of sepsis. He enumerates a long list, among which may be mentioned streptococcus pyogenes, streptococcus hemolyticus, streptococcus viridans, streptococcus mucosis, pneumococcus, staphylococcus, gonococcus, meningococcus, Friedländer's bacillus, pyocyaneus, typhoid, paratyphoid, and Fränkel's gas bacillus, among others.

We understand by sepsis a general infection of the entire organism without definite or specific visceral changes. The tubercle bacillus produces characteristic changes in the lungs, bones, joints; the typhoid bacillus produces characteristic intestinal ulcers. In septic infections no such characteristic organic lesions prevail. In sepsis there is a primary focus of inflammation from which constantly or periodically bacteria or their toxins are poured into the blood-stream, producing general manifestations which overshadow the local changes in the primary focus. In sepsis the entire organism is involved. We must distinguish sepsis and bacteremia. In the latter condition bacteria may occasionally be recovered from the blood, but there are no deleterious effects. Bacteremia has its source in a focus of infection somewhere in the body, and clinicians have come to believe from actual experience that the presence of bacteria in the circulating blood does not necessarily constitute a diagnosis of sepsis. On the other hand, it may be impossible to recover organisms from the blood in some cases of genuine sepsis. It is thought by many excellent authorities that bacteria do not multiply in the blood during sepsis. The organisms are never so numerous in the blood as might be expected if they multiplied there. After death the bactericidal power of the blood diminishes, and the microörganisms may increase in this medium—the so-called agonal invasion. To repeat, then, what has already been said, the cause of general sepsis is not explained by the multiplication of microörganisms in the blood, but their constant or periodic entrance into the blood stream from a focus of infection. Possibly this explains the occurrence of recurrent attacks of fever, chills, and sweating which we see clinically. It must be assumed that bacteria which gain access to the blood are deposited in other tissues or organs, and it has been demonstrated by various investigators that the first place of localization of bacteria is in the reticulo-endothelial system. If the reticulo-endothelial system does not form an effective barrier, a generalized infection will ensue. As long as the bacteria are limited by this line of defense, no general infection occurs.

We may refer briefly to the subject of virulence of invading organisms. Virulence of an organism is a fluctuating and relative quantity. There seems to be clinical evidence that virulence varies from season to season. Every clinician has observed the variability in the severity of epidemics of influenza, scarlet fever, measles and other infections. Sometimes these epidemics are characterized by their mildness, and at other times by their severity. The medical historian and geographer, Hirsch, has pointed out in his study of scarlet fever, extending over many years, that a cycle of severe manifestations is frequently followed by another cycle milder in character.

A study of septic infections is not only to be considered in the light of the virulence of

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the offending organisms, but also in relation to the response of the defense reaction of the body. As long as this defense mechanism functions effectively, there is no sepsis. Its failure to react adequately leads to generalized infection.

Metchnikoff in 1882 introduced our modern conceptions of immunity by his studies in phagocytosis. Since that time many facts and theories have been elaborated to explain the mechanism by which animals resist infection. Long ago Pettenkofer took the position that the cholera bacillus was only one factor in the causation of Asiatic cholera. He thought that the health of the host and the hygienic conditions under which he lived were equally important. His once famous, though long since forgotten X, Y, Z Theory, based upon his personal observation and critical judgment, has been more or less confirmed in recent times by the more scientific deductions of immunologists and pathologists. To prove his theory, Pettenkofer and his assistant, Emerich, after rendering their stomach contents alkaline, each drank a culture of virulent cholera bacilli. Pettenkofer, then an old man, developed a simple diarrhea. Emerich developed a severe attack of cholera and nearly died. Pettenkofer believed that the validity of his theory was established by this experiment. This theory has been revived and amplified, and the latest views maintain that a major portion of the defense reactions depend on the efficiency of the reticulo-endothelial system. According to Aschoff, the reticulo-endothelial system consists of the reticulum cells of the splenic pulp, the Malpighian corpuscles, the bone marrow, the lymph nodes, and other lymphatic tissues. The cells of the reticulo-endothelial system have great phagocytic power, and experimentally it has been shown that they are able to store up colloids, dyes, metals, bacteria, and cell fragments. Investigators have also pointed out that the reticulo-endothelial system plays an important part in the metabolism of hemoglobin, iron, bile salts, fat, and water. The defensive functions of these cells are of the greatest importance in maintaining the immunity of the organism. Bacteria which are localized in the superficial tissues may be taken up by the histiocytes, and those circulating in the blood are taken up by the Kupfer cells of the liver, so that the blood is rapidly cleared of large quantities of circulating bacteria. If the phagocytes of the reticulo-endothelial system fail to take up the bacteria, the latter continue to swarm in the blood stream, and an overwhelming form of sepsis occurs.

The late Professor Maximow states the problem from a slightly different point of view. He believes that the connective tissue, the so-called mesenchyme, plays a predominant rôle in destroying noxious agents which endanger the normal course of life. He thinks that three cellular systems play a rôle in the defensive reaction against infection: (1) First there are the two kinds of hemocytes, the granular leukocytes and the monocytes. When the hemocytes take up their defensive rôle, leukocytosis is the clinical evidence of their activity. (2) Then there is the endothelium of the blood vessels. Numerous observers maintain that the vascular endothelium participates actively in the general defense reaction against noxious agents. While the function of the vascular endothelium may be important in maintaining or producing immunity, there is no evidence at hand to prove its significance along this line. (3) Finally there is the reticulo-endothelial system. These cells constitute the most important factor in the general defense reactions. Not only do these cells act as phagocytes, but they probably produce enzymes and participate in the formation of antibodies and hemolysins. It has been shown by L. Hektoen that antibody formation resides largely in the hematopoietic system, especially in the liver, bone marrow and spleen. By interfering with the function of these structures the antibody defense is measurably diminished.

J. Ramsay, in a recent publication, presents the hypothesis that successful resistance to bacterial infection depends largely on the orderly response of certain endocrine glands. The sympathicotrophic group, consisting of the thyroid, suprarenals, and pituitary glands and the vagotrophic group, consisting of the parathyroids and pancreas, are said to have an important function in the defense mechanism against infection. He believes that the thyro-parathyroid group regulates the phagocytic properties of the leukocytes in a normal individual. Extirpation of these glands in monkeys produces increased susceptibility to infection. He also attempts to explain the fact that in certain individuals comparatively mild infections may prove fatal without adequate explanation. He thinks such results may be

due to endocrine imbalance and to a lowering of the immunity of the organism. While this view is interesting and suggestive, it is, like many of the present day opinions concerning the function of the endocrine glands, difficult to confirm by clinical or experimental methods.

There is an evident difference in the susceptibility of younger and older individuals to certain infections. Experiment has shown that young animals show a lower resistance to bacterial and protozoan infections than older animals. Neufeld thinks that the greater resistance of older individuals is due to the fact the defensive mechanism is better developed in the mucous membranes and lymphatics. In general, it has been held that the lower immunity of younger individuals may be explained by a number of factors: the poor complement content of the serum, the weak antibody formation, and such non-specific factors as the diminished defensive powers of the mucous membranes and the lymphatics. Every clinician of experience has witnessed the high mortality due to erysipelas in young infants, the severity of scarlet fever, measles, diphtheria and similar infections in babies. These diseases take on a severe form during the infantile period of life and the mortality is unavoidably high.

SEPSIS IN INFANTS DURING THE FIRST THREE MONTHS

The ravages of septic infections among infants which occurred in the pre-antiseptic and pre-aseptic era are practically unknown to the present generation of physicians, though even now the condition occurs perhaps more frequently than is commonly recognized. All infants are particularly susceptible to septic infection, though this is most marked in the premature. This hyper-susceptibility is due to a number of causes: (1) the skin is readily penetrated because of the thinness of the stratum corneum; (2) the mucosa of the stomach and intestine is readily traversed by living organisms; (3) antibodies are less readily formed. Septic infections occur more frequently in artificially fed infants; breast fed infants are protected to a considerable degree by the bactericidal substances in the mother's milk.

There are various portals of entry and modes of infection which are particularly characteristic of sepsis in infancy. (A) Infections in young infants may be hematogenous, as in the case of a mother suffering from an infectious process. The organisms reach the infant's body through the maternal circulation. (B) Aspiration of infected amniotic fluid may be the source of infection. Bacteria may gain access to the amniotic fluid even though the membranes are intact, or after rupture of the membranes. The infant may aspirate the infected fluid and develop an aspiration pneumonia to be followed by a fatal sepsis. In some instances the amniotic fluid, which contains particles of desquamated epithelium, meconium, vernix caseosa and lanugo, may cause an aspiration pneumonia, the organisms invading the respiratory system secondarily.

(C) Umbilical sepsis is due to faulty aseptic technic in the management of the umbilical wound, and is no longer as frequent as formerly. It is estimated that it occurs in about 1 per cent of babies born in large clinics. The infection may be conveyed to an infant from a mother who is suffering from puerperal sepsis.

(D) Infection may occur through the mouth cavity. Streptococcal infection has been observed in infants who developed Bednar's aphthæ. Abrasion of the mucous membrane with subsequent septic infection was not uncommon when washing and wiping the mouth was in vogue.

(E) Enterogenous sepsis is another type. This occurs readily in infants on account of the permeability of the gastro-intestinal mucosa to bacteria. Not only the bottle fed, but also the breast fed infant may be infected by impure milk. Sepsis has developed in infants who have been nursed from mothers suffering from mastitis.

(F) Urinary infection may occur, particularly in female babies. It has been assumed that organisms from fecal discharges may gain access to the urethra and ascend to the bladder, renal pelvis, and renal parenchyma, though a hematogenous infection cannot be excluded in some instances.

Sepsis in infancy is characterized by its sudden onset and severe course. The typical form of sepsis in very young children is the pure septicemic type, characterized by the presence of pathogenic organisms and their toxins in the blood. As a rule, the infection becomes generalized without an intermediary lymphangitis or lymphadenitis. A typical pyemia, with the development of metastatic abscesses is not as frequent as in

later life, though it does occur. Osteomyelitis, purulent arthritis, and inflammation of the serous membranes may develop as complications. Metastatic empyema and pneumonia, as well as endocarditis and pericarditis, are observed. Purulent peritonitis is frequent after umbilical infection. At the onset the fever is usually very high, but in many cases it declines after several days and becomes irregularly remittent. Before the end, collapse with subnormal temperature may develop. In weak asthenic babies the course of the disease may be afebrile. Hemorrhage and persistent icterus are characteristic manifestations of sepsis in infants. The icterus may be so intense that the skin appears bronzed. Hemorrhages may occur into the skin from the navel, from the mucous membranes, and some cases of melena may be of septic origin. Buehl's disease and Winckel's disease are probably septic in character. Hemorrhagic nephritis is not an infrequent occurrence. Skin eruptions of various kinds are not uncommon, such as roseola, morbilliform or scarlatiniform rashes, sclerema, and edema.

The diagnosis of sepsis in young infants may present great difficulties. The demonstration of a primary focus is not always possible. The appearance of the navel does not always reveal the nature or severity of the infection. Neither umbilical periarteritis nor thrombophlebitis can be diagnosed with certainty in the living child. Internal metastases may be overlooked by the most astute clinician. Hemorrhages into the skin are strikingly suggestive of septic infection. Positive blood cultures, though not easily obtained at this period of life, offer the best confirmatory evidence. Nevertheless, the clinical viewpoint should occupy first place in establishing the diagnosis.

GENERAL SEPSIS PAST INFANCY

Probably the most frequent atrium for septic infections in childhood is through the tonsils, pharynx and communicating cavities. A familiar example is furnished by the severe tonsillar infection of scarlatina. In this connection it may be stated that it is not universally conceded that the hemolytic streptococcus is the causal factor of scarlet fever. There are those who believe, after thoughtful consideration of the whole problem, that scarlet fever is caused by a filtrable virus and that the streptococcus plays the role of a secondary invader. The exciting organism, whether it be a filtrable virus or a secondary invader, may find lodgment in a wide expanse of mucous membrane, including the area from the tip of the nose to the larynx, with the addition of the mouth cavity, the accessory sinuses, the conjunctival sac, the middle ear with its antrum, the mastoid, and the eustachian tube. Werner Schulz has recently expressed some doubt as to whether the tonsillar tissue is the point of entrance of the infection or whether the angina occurs during the process of elimination of the organism during a general infection. In point of sequence of infection it may be difficult at times to decide how the infection gained access to the body. Sometimes a tonsillitis occurs during the course of a septic gonorrhea in adults, in typhoid fever, or in syphilis. There can be no doubt that in these diseases tonsillitis is secondary. On the other hand, no one will deny that the tonsillar tissues may be, and frequently are, the atrium of infection. The tonsils and pharynx in scarlet fever very soon may become the site of an inflammatory necrosing process. The neighboring lymph nodes frequently become involved. While these may suppurate and remain local, in the severest cases metastatic or pyemic processes result, such as, endocarditis, pericarditis, myocarditis, pleurisy and pneumonia, osteomyelitis, appendicitis, peritonitis, and septic infarcts of the kidneys and spleen.

Necrotic anginas of streptococcic origin may arise independently of scarlatinal infection and may produce severe septic complications. In the grippal infections, whether due to the presence of the influenza bacillus or to streptococci, severe sepsis with selective localization in the respiratory system or in the nervous system may occur. In these cases meningitis is of not infrequent occurrence, and the influenza bacilli have been recovered from the spinal fluid.

In every case of tonsillar infection or angina, septic infection is a possibility, and probably occurs more frequently than is commonly thought. One is struck by the variety and multiplicity of manifestations. At times the angina occurs ten or fourteen days before septic symptoms manifest themselves. At the onset chills are likely to occur, associated with more or less continuous or remittent fever. The history of chills is of greatest importance. A chill signifies that the focus of infection is in communication

with the blood stream and that the bacteria have gained access to the circulation. The occurrence of a chill in the presence of an angina is presumptive evidence of the presence of a thrombophlebitis. Cervical adenopathy develops early; multiple pulmonary abscesses may occur, and metastases may develop in various parts of the body. Thrombophlebitis of the palatal vein and of the cavernous sinuses have been observed in various patients. The local symptoms may improve, but the chills, fever, and metastases continue. As a rule, there is a marked contrast between the mild local symptoms and the severe general condition. Cases of post-anginal sepsis offer an unfavorable prognosis as a rule. Some of the patients run a hyperacute course, ending fatally in a few days, and in other cases the illness extends over a period of weeks or months.

In children past infancy sepsis is of relative frequency after otitis media and its complications, such as lymphadenitis, mastoiditis, and thrombophlebitis of the cerebral sinuses and jugular veins with advancing septic thrombosis.

In addition to the tonsils as a focus of infection, contaminated wounds, abrasions, fissures, phlegmons, severe eczema, and other pustular and vesicular eruptions, as well as erysipelas, may be a source of streptococcic sepsis. Rarely do septic processes originate in the lung. The bronchopneumonias so frequently encountered are nearly always secondary. The same is true of septic scarlet fever. The complicating pneumonias nearly always occur as the result of metastatic processes. Various alimentary infections may act as the foci of infection. Dysentery bacilli, producing intestinal ulcers, may enter the blood stream. The same is true of the ulcers of typhoid fever and tuberculous ulcers of the intestine. A perforated appendix with a subsequent peritonitis may produce a generalized sepsis, if the patient survives the first shock of the infection.

It is not possible here to go into great detail concerning the various clinical forms of sepsis which occur. Briefly, we may mention first the acute type of sepsis which develops rapidly, which is usually hyperacute in its manifestations, and which may cause death in two or three days. The foci of infection producing this sepsis have already been referred to, and may be an angina, a furuncle on the lip, or a multiple furunculosis. Indeed, any phlegmon or abscess may unexpectedly lead to a general sepsis and run an acute and fatal course.

Secondly there is a chronic form of sepsis, which is also spoken of as sepsis lenta. Clinically this type manifests itself as a rheumatism or a recurrent endocarditis. The chronic form frequently begins acutely, but may persist as a prolonged and protracted disease. The streptococcus viridans is frequently encountered in these cases.

A third form is that characterized by agranulocytosis. This condition, first described by Werner Schulz, involves first the tonsils, pharynx, gums, tongue and larynx, and sometimes there are ulcerations on the genitalia. The local process is necrotic, membranous, and gangrenous. The regional lymph nodes may become swollen, and the liver and spleen are sometimes enlarged. The blood findings are characteristic. The leukocytes are diminished, and the granulocytes are practically absent from the hemogram. The lymphocytes preponderate. The blood platelets, the red cells, and their hemoglobin content are usually unaltered. It has been assumed that this blood reaction is due to an acute septic process. The profound and varied changes in the blood forming mechanism may be due to a variety of causes, and the hemogram resulting from sepsis may be varied in character. Consequently, agranulocytosis may be one of the possible reactions in the course of a septic process. It is possible to conceive that it may be due to the nature of the organism, its virulence, to the degree of resistance of the host, or to several combined factors. The salient point is that agranulocytosis is probably not a distinct disease and that it should be regarded as a reaction of the organism to a septic infection.

There are various opinions concerning the etiology and pathogenesis of the acute leukemias. There is no certainty concerning their etiology. Nevertheless, there are those hematologists who consider the acute leukemias in the light of a blood reaction to a septic process. Other views maintain that the leukemias are due to an unknown specific organism. A somewhat older school of clinicians held that leukemia is a neoplastic process. It is evident that no dogmatic statements as to etiology are permissible at this time.

TREATMENT

It is regrettable that at this time no san-

guine message can be brought regarding the treatment of septic infections. Most important is the prophylaxis. Much has been accomplished in this direction. The conquest of puerperal fever, septic infections of the new-born, and surgical infections in general furnishes one of the most telling chapters in the development of preventive medicine. Surgical procedure still remains one of the most potent forces in the prevention of septicemia. We need only mention the benefits derived from appendectomy, mastoidectomy, or the ligation of a thrombosed jugular vein in post-anginal sepsis. Where foci of infection are accessible and where they can be irradiated the best results are obtained. If it is possible to remove the source of the infection sufficiently early, bacteria are no longer introduced into the general circulation.

Bactericidal and Antitoxic Treatment.—It may be possible in a future day to obtain some chemical agent which will have a bactericidal effect on foci of infection. Up to now we have no satisfactory chemo-therapeutic agent in the treatment of sepsis. Rudolph Benko (Wiener Med. Wchnschr., Mar., 1930) found that the ordinary antiseptics in use failed to give the desired result as a rule, because they were unable to gain access to the intra-cellular bacteria. The ordinary antiseptics, such as bichloride, pyoktanin, and others, could not accomplish the purpose. Nor were the ethyl-cuprine-hydrochloride preparations of Morgenroth more suited because they were unable to penetrate deeply into the cell. Benko, after many years, prepared a substance, ortho-oxy-chinoline, which is characterized by lipoid solubility and high surface tension. This is too irritating for practical use, but after many attempts he found that an ammonium derivative of this substance was capable of dissolving lipoids, entering the cell and destroying bacteria without causing cellular death. This preparation has not as yet been subjected to sufficient clinical test. If chemotherapy is eventually to succeed in the treatment of sepsis, it seems, according to the theory of Benko, that a preparation should be obtained which is capable of penetrating the cell and producing a bactericidal effect without injuring the cell substance.

When bacteria have found access to the blood stream, the problem that suggests itself is to find, if possible, effective bactericidal agents. Modern investigators agree that the blood itself is a bactericidal fluid. Many tissues of the body are also capable of similar action, though this function is diminished in severe sepsis. It would seem reasonable to introduce bactericidal sera into the body. This has been frequently tried in sepsis without encouraging results. Even the efficacy of immunotherapy, *i.e.,* the injection of vaccines into the donor followed by the injection of his bood into the recipient, does not always give the expected results.

Chemical disinfection has been employed by various investigators. Koch conceived the idea of introducing bichloride of mercury into the body for the treatment of sepsis. He found, however, that this chemical agent coagulated proteins and produced undesirable tissue changes. Since that time numerous chemical substances have been used, more recently the antiseptic dyes. Some investigators have thought that these substances acted not simply as antiseptics, but that they increased the resistance of the organism against infection by stimulating the defense reaction of the cells of the reticulo-endothelial system. However, we must abandon the idea that the injection of dyes is capable of producing complete sterilization of the blood stream. We may state, therefore, that with our present methods and in the present state of our knowledge there is no efficient bactericidal agent in the treatment of sepsis, whether it be a serum or a chemical disinfectant. Perhaps this does not apply to antitoxic sera. There is considerable evidence that the convalescent serum of scarlet fever or the scarlet fever antitoxin may under certain circumstances neutralize the septic complications of scarlatina.

Symptomatic Treatment. — Symptomatic treatment is a matter of common knowledge and may be referred to briefly. The nutrition of the patient should be maintained. Alcoholic drinks are sometimes recommended. Vascular collapse is treated with strychnine, adrenalin, and pituitrin. In cardiac decompensation digitalis may give symptomatic relief.

A brief review of non-specific therapy seems to indicate that protein injections of various kinds give poor results or even produce injury.

Opinion is divided concerning the benefits derived from the use of auto-blood injec-

tions, intra-muscular, intra-peritoneal blood injections, and blood transfusions. There is no doubt that in cases of thrombopenia and grave anemia a supply of blood is at least of temporary value. It may be possible to increase the immune bodies of the patient temporarily by introducing into the circulation a fresh supply of healthy blood. A blood injection may be considered the most rational and appropriate form of non-specific therapy.

Recently a form of intravenous therapy, which has been designated the "Blockade Treatment," has been suggested. Ten minutes before an intravenous injection is given, one c.c. of pituitrin is administered subcutaneously. Following this an injection intravenously of trypaflavin or some other dye or Pregle's Solution (an antiseptic solution of the sodium salt of hydriodic acid and iodic acid with metallic iodine—.04 per cent) is administered. It is assumed that the chemo-therapeutic substance is absorbed more slowly and is permitted to come into closer and more prolonged contact with the cells of the reticulo-endothelial system. In this manner the defensive mechanism of the cells is stimulated to increased activity.

The clinical results achieved by the various methods in the treatment of sepsis are not convincing. Claims are made by those who represent various methods of treatment, but there are no large series of cases, and the statistics supplied from the small groups, even if favorable, are not conclusive, because all will agree that types of sepsis vary with the kind of organism, the previous health of the patient, the varying degree of resistance and other factors which render comparison or uniformity difficult or impossible.

ILEUS WITH REPORT OF TWO-STAGE OPERATION*

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That the thirty-two feet of human intestine closely coiled within the peritoneal cavity is not more often subject to obstruction than it is, is a remarkable thing to contemplate. Somehow, the nerve and muscle mechanism of this alimentary tube, aided perhaps by gravity, manages to keep the traffic lane open, and thus it functions best. But, when any of the mechanism calculated to prevent stasis fails, or is interfered with, by inflammatory or mechanical conditions which also cause strangulation, then the natural resources and functions of the body are upset, and ileus, with its attendant seriousness, soon damages this delicate tube, and life itself is in danger. The pent-up gas, which soon begins to form when stasis and strangulation occur, and the toxic absorption of the products of the intestinal flora, together with gangrene toxins, produce more or less sudden violent reactions and symptoms, which should lead at once to an investigation of the cause, and of the site of the lesion, with prompt institution of measures for relief.

Patrick Henry, the great orator, gave the world a famous saying, "Give me liberty or give me death," which is just as trite in the realm of intestinal obstruction as it was when our forefathers fought to free our country from the tyranny of George III.

There are no new diagnostic signs in ileus, but there is less excuse today for overlooking obstruction, whether it be due to strangulated hernia, adhesions, growths, or intussusception. Burgess in the Lancet, April 27, 1929, says, "The present mortality rate in 1,042 cases with 396 deaths is 37.9 per cent." It is the high mortality rate we are out to reduce.

The only possible reason for high death rate in ileus is the delay in operating. The cases with distended abdomens, fecal vomiting, and signs of advanced toxemia are mostly cases which have been getting watchful waiting treatment and doses of morphine. To give morphine in acute abdominal pain without first making a diagnosis is little short of murderous. To smother the symptoms by subduing pain without a diagnosis never was, and never will be, proper therapy. Morphine is indicated in intestinal obstruction only when a diagnosis is made or when the patient is about to be taken to surgery.

Sometimes, all the signs of intestinal obstruction are not present, and we hesitate. Fecal vomiting is not always present, but if

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we wait for it, the chance to save the patient is all but lost. According to Burgess, "The only hand that ever paints a complete pathological and clinical picture of any morbid state is the hand of death." The man who waits for fecal vomiting will practically never make a mistake in diagnosis, but rarely, if ever, will be save his patient. "Far better for the community in general," he said, "would it have been had the original advent into the world of such a would-be infallable diagnostician been in itself a perfectly complete clinical picture of the process of still-birth."

The diagnosis is based upon the history and findings. The X-ray may be useful, but should be used without waiting to give barium and if possible the film should be taken in the standing position. Close observation may show the presence of visible peristalsis, providing the case has not reached the stage of extreme distension. Fever may or may not be present; usually it is absent at first, and later may be slightly elevated as the complications begin to appear. Although there is a lot of conflicting evidence concerning the toxicity of the material in the loops above the point of obstruction, it is evident that the contents are, to say the least, extremely toxic. The nature of the toxin is not known, and the toxicity varies considerably. However, in a case of the strangulation type of obstruction there is the added toxin of substances which are present in moist gangrene. Clinically, the high obstruction develops rapidly. If the bacterial content plays an important factor in the disease, low obstruction should have more marked and rapidly developing symptoms, because of the greater bacterial content of the lower bowel. But this is not so, for, on the whole, when obstruction occurs, its seriousness is in inverse proportion to the distance below the pyloric opening. In other words, the lower down the point of obstruction the less acute are the symptoms and less urgent the case for operation.

In acute intestinal obstruction, the pain is referred to the epigastric region. It is generally paroxysmal at first, later becoming continous as the obstruction becomes complete. The vomiting, like the pain, is at first reflex, and later the vomiting is due to mechanical obstruction, and appears earlier the higher the site of the obstruction. In the lower obstruction, as from carcinoma of the rectum, vomiting may be absent throughout. The emesis consists at first of gastric contents, later it is bilious, and still later brown and feculant in odor, or fecal vomiting.

Rectal examination is important. In some cases, the cause of the obstruction can be felt, or seen through a proctoscope, as in stricture, or growth of the rectum or sigmoid. Ninety per cent of the colon obstructions are due to carcinoma. In the small intestine, the chances are 300 to 1 against the obstruction being malignant. Out of 596 cases of small intestinal obstruction, only two were due to malignant growth, according to Burgess, who also states that "eighty-eight per cent of small intestinal obstructions are due to adhesions or internal strangulations."

Treatment: In the early cases of intestinal obstruction, say within twenty-four hours of the onset, with little distension and general condition good, immediate operation gives prompt relief. Locating the cause of the obstruction, cutting the bands of adhesions, short circuit or enterostomy should be done as indications point the way. But in the late cases with general abdominal distention, dehydration, fecal vomiting and exhaustion, the skill is often taxed to the utmost. Some surgeons advocate doing a blind cecostomy, under a local anesthetic through a small incision in the right iliac fossa. This is calculated to relieve the obstruction, provided it is in the colon. But, in many of these late cases, it is difficult or impossible to locate the obstruction before operating, and, if it should be in the small intestine, the cecal opening will not give relief and valuable time will be lost. If the colon obstruction has resulted in strangulation, the cecostomy relieves the obstruction, but not the strangulation, which ends in perforation and peritonitis. Statistics show that the risk of such strangulation being overlooked when a blind cecostomy is done is at the most only 1.5 per cent, but to me, even that risk is too great to take. If uncertain as to the site of the obstruction, and if the cecum is found to be distended, then a cecostomy should be done either through the original wound or through a gridiron incision in the right iliac region. With no definite knowledge of the location or cause of the obstruction at hand, then a paramedian laparotomy must be performed, and location definitely determined. The first order of search should be to examine, from

within, the hernial orifices. If not found there, pick up a coil of the collapsed intestine and trace upward to the site of the obstruction.

Souttar shows that a blind enterostomy is not so safe a measure for relief of small intestinal obstruction, and that the risk of overlooking a strangulated intestine would be at least 42.6 per cent.

A summary of the treatment of acute intestinal obstruction may be considered under five different heads, and careful attention to each is essential to successful therapy. They are as follows:

1. Removal of mechanical obstruction.
2. Relief of dehydration.
3. Relief of toxemia.
4. Relief of starvation.
5. Drainage of small bowel by enterostomy.

Good judgment would indicate that giving of large amounts of saline solution and glucose before operation puts the patient in a favorable setting for operation and improves the risk. By using hypodermoclysis, or an intravenous injection, 3 to 4 litres of water and 50 to 75 grams of sodium chloride may be given in a couple of hours. Salt solution in 2 per cent under the skin and 5 per cent in a vein may be given slowly. After the operation, saline solution should be continued until the patient can take fluids by mouth freely. Glucose furnishes the caloric energy and relieves the starvation. It may be given slowly in 10 to 25 per cent solutions in a vein and may be given in sufficient amount to produce 1,500 to 2,000 calories without doing harm. If necessary five to ten units of insulin three times a day should accompany the glucose.

The patient seen late with intestinal obstruction and in poor condition from toxemia, vomiting, and dehydration, requires prompt, skillful handling in order to meet the desperate condition present. The strangulated intestine with perforation and beginning peritonitis requires of course immediate resection. With beginning peritonitis and owing to the poor condition of the patient, it would be fatal to attempt immediate anastomosis. The only recourse is to leave an intestinal fistula with plenty of drains until the patient revives sufficiently to warrant closing the intestine and abdomen. As much time should be allowed to elapse after the emergency operation as possible before undertaking the closure, in order to build up the patient and develop immunity to colon infection; three to six months is not too long. The skin irritation about the wound of the intestinal fistula usually compels us to attempt closure sooner than we otherwise would. The various measures used to protect skin against intestinal secretions are futile, and all too soon the patient demands that something be done to obtain relief. The following case will illustrate some of the points in connection with the handling of a desperate condition, as well as the technic of the final closing of the intestine and the abdomen.

Case B. G.—Woman, 49. Married. Has two children. Family History: Father died of apoplexy at 62. Mother living and well, age 72. No brothers or sisters. Personal History: Had but few childhood diseases, but had severe typhoid fever at age of 12. Married at 25. At age of 32 had dermoid cyst of left ovary removed and two years later had her first child. Three years ago had hysterectomy for fibroid uterus.

Present Illness: On September 25, 1929, was taken with acute abdominal pain, vomiting, and obstipation. She called a physician, who gave a hypodermic of morphine, and from then on, with morphine at intervals, for four days, the symptoms persisted. On the evening of the fourth day I first saw the patient, and her condition seemed hopeless.

Examination: A slender woman, five feet seven inches tall. Weight, 120 pounds. Temperature 100F, pulse 120, respiration 28. Systolic blood pressure 100, diastolic 70. Some râles over chest, but no dullness. Heart dullness normal, no murmuurs, pulse rapid and weak. Moderate distension, no gas sounds heard, abdomen moderately tight, no signs of visible peristalis. Extreme tenderness over whole abdomen, and a mass was felt in the lower abdomen, which marked the most tender point. The mind was clear, expression anxious. The patient had vomited continuously for four days. States that emesis had occurred 25 times each day. The emesis had a fecal odor and the tongue was coated. After giving her 1,500 c.c. of saline solution by hypodermoclysis, she was taken to surgery.

Operation, First Stage: Under gas anesthesia, a left paramedian incision was made and a large, black perforated mass of small intestine was found in the lower abdomen. After walling off with hot packs, the strangulated gangrenous small intestine was lifted out of its bed. The involved intestine was found to be a loop of the jejunum, 14 to 16 inches in length, that had become twisted at the point where a band of adhesions joined the loop together. The band was cut, the loop freed and the gangrenous intestine cut off. The proximal and distal ends of the gut were fastened into the lower end of the wound, with an enterostomy tube in the proximal opening, four large cigarette drains were placed in the abdomen, and the wound closed down to the opening of the enterostomy. Every effort was made to hurry the operation in order to save the patient the shock of any prolonged operative procedure. Upon returning to her room she was given more saline hypodermatically, also glucose intravenously, and the Murphy drip was kept going for three days. She rallied, the vomiting ceased, took liquid nourishment by mouth and soon was convalescing. A period of ten weeks was allowed to elapse before undertaking the closure of the intestine. During this time the patient's resistance built up, she ate well, but the irritation of the

abdominal skin from the intestinal secretions was so annoying that it finally forced us to undertake closing the intestine a little sooner than we had expected.

Operation, Second Stage: After an ounce of castor oil the day previous and with nothing but water for twelve hours before operation, under gas, the operation was undertaken. On account of the infected granulation tissue in the scar of the first operation an attempt was made to close off the old wound by making an elliptical incision about 1 cm. outside the margin of the old incision, and as soon as the skin and subcutaneous tissues were incised to bring the edges of the wound together with a running stitch so as to close in the lips of the old wound, sealing up the scar, and covering in the ends of the intestine at the fistulous opening. The incision was then continued downward through the muscles and fascia and peritoneum, and the old wound, having been excised, was lifted up, the two ends of the intestine being attached to the old scar. Clamps were applied to the two intestine ends just below the scar, and the scar cut off. After further freeing the intestine so as to get it well up out of the wound, and making sure of the circulation from the mesentery, an end-to-side anastomosis was done, the distal end being joined to the sides of the proximal end. The distal gut was very much atrophied from disuse, but an anastomosis was easily accomplished. The blind end of the proximal gut was not closed, but a rubber tube was stitched into it, and the end swung under the peritoneum to a point four inches to the right of the incision, where it was fastened into a stab wound with the rubber tube left outside for drainage and to prevent distension. The original wound was closed with some difficulty on account of excising such a liberal amount of the scar of the old operation. Drains were left in the abdomen. The fistula, draining through the tube, took care of drainage and gas, and after about one week gas and fecal matter began to pass by the rectum. Closure of the fistula gradually took place and the patient's recovery without complication has become an accomplished fact.

DISCUSSION

DR. C. D. BROOKS (Detroit): I think, as has been stated before, that it is very important, when possible, to get the patient who has acute intestinal obstruction in as good condition as possible. In large bowel obstruction we feel also that it is very important not to operate as an emergency at the time the patient comes to the hospital, but to get him prepared by dextrose and saline intravenously and morphine liberally, and oftentimes after three or four days a week of this treatment they prove a very fair risk.

In obstruction of the smaller bowel, by strangulated hernia or any large loops of gangrenous strangulated bowel, if the gangrenous bowel can be brought outside the abdominal cavity and an enterostomy tube, both proximal and distal to the gangrenous bowel can be inserted, the patient may recover.

We feel in some of these desperately sick patients, with cold, clammy skin, that it is advisable not to attempt even removal of the gangrenous bowel at this time, but leave it alone for several days. In certain cases, if the proximal and distal enterostomy tubes can be connected by a glass tube, they will side track the gangrenous area.

It is highly important that no attempt should be made to do anastomosis in these very sick patients, as they will only die. If operation can be postponed for a few days they may live. We feel that the two-step operation for intestinal obstruction is a very vital factor.

DR. E. STARR JUDD (Rochester, Minn.): Every surgeon realizes that the presence of ileus constitutes a serious problem. However, experience has taught that certain kinds of treatment offer some advantage. Formerly we operated promptly upon the patient who came with a practically complete obstruction, distention and vomiting. We have learned that by medical treatment it is frequently possible to improve his general state and reduce the risk of the operation. During the acute illness the water balance is supported by saline and glucose. If the obstruction is only partially relieved the operative risk is nevertheless decreased. On some occasions it is possible to defer surgical treatment until the risk is materially reduced.

One of the sources of greatest worry is the partial obstruction that has its onset two or three days after operative procedure and in which there is gradually increasing abdominal distention. Gas may pass frequently by rectum but there may be intervals of retention of gas. Sometimes the patient vomits only occasionally. It is often difficult to decide whether an operation is a necessary procedure. While I value and very thoroughly believe in enterostomy as a relief for acute intestinal obstruction, I doubt the advisability of performing the operation until the condition absolutely demands it. In some instances an operation will be required. Other patients will have pain and difficulty for several days and then finally the condition will take care of itself. In the latter instance I believe the partial obstruction is practically always due to a low grade peritonitis. Ileus is a condition that tries one's judgment as much as any that a surgeon encounters.

DR. J. G. R. MANWARING (Flint, Mich.): The Doctor discussed to some extent the general consideration of intestinal obstruction. There is one thing I would like to say about that. Some have taken dogs, put a window in their abdomens and made beautiful movies of the intestines in action. The dog lies flat instead of upright so that we get an imperfect understanding of the process. If you will observe these pictures showing peristaltic action, you will notice the part that contains fluid sinks out of sight and the loops with gas rise to the top. If the pictures could be taken in the upright position, this up and down motion would be very clear.

We know that adhesions of the small intestine are more serious than adhesions of the large. This is because the up and down movement is stopped by the fixation so that fluids have to be lifted up and over the fixed point. If this point is low down the gas has to be pushed down and under it. If it is high up liquids have to be pushed up and over it. With free floating intestines the liquids lie low and are stationary, the intestines moving instead, floating up and down without lifting the liquids or pushing down the gas.

The colon has no such free movement but instead usually pushes on less liquid contents by an additional lengthwise contraction.

The doctor spoke of the two-stage operation for obstruction. It seems to me one of the greatest pieces of magic given to surgeons in the past fifteen or twenty years has been enterostomy. No doubt it saves many lives.

It seems to me in those cases of post-operative obstruction, following local peritonitis, developed after operation, it is seldom a good thing to search for your obstruction. In my experience an enterostomy has sufficed nearly always in those patients where you do not fear gangrene and other things.

By the way of differential diagnosis, I think the

X-ray examination made without anything but air in the intestines, is very valuable. It will differentiate between large and small intestine. You can tell easily about where the obstruction is by the appearance of the air markings.

Now in the large intestine, he spoke of cecostomy. Cecostomy is used occasionally, but I seldom use it any more. We have to do a drainage operation more often for obstruction due to carcinoma, of course, than anything else. If the case comes to you with obstruction, the two-stage operation is absolutely the thing to do. And in case you can, you can do a colostomy. If the obstruction is higher, rather than do a cecostomy, when possible, I do a colostomy of the transverse colon, because if I can't relieve the condition causing it, I can leave the opening and have more control of the contents than you can from a cecum. The cecum usually has liquid contents; after a long time sometimes they get so they are not so liquid. In the transverse colon, at the middle, you get stools more or less formed, and in case you can't do anything further, they are much more comfortable. Since using the transverse colon more freely, I have had no occasion to do cecostomy.

As I said, the two-stage operation is a life-saving procedure for I think we are tempted to do too much frequently in these cases. I think spinal anesthesia has added a great deal to the ease with which some particular cases are explored without damage. But people, if they have passed middle life, are fat or distended, do not stand spinal anesthesia well. It is a thing to be used with discrimination.

Dr. Roy D. McClure (Detroit): I would just like to emphasize the importance of early diagnosis in ileus cases. Some patients come to a fatal ending who might not otherwise have done so were early proper diagnosis made of the condition. If an early diagnosis of ileus can be made there is less call for the two-stage operation.

EXCRETION UROGRAPHY*

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and
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In reviewing the roentgenographic studies in the first fifty cases in which iopax was used in the Department of Urology at the Detroit Receiving Hospital, some points in its favor and some against its use as a routine procedure in X-ray studies of the urinary tract are worthy of emphasis. In this series, the authors have attempted to evaluate the diagnostic worth of this iodine-containing substance, which in many cases is excreted from the blood stream by the kidneys, in a concentration sufficient in intensity for X-ray visualization of the urinary tract. During the past twelve months, the literature has been replete with articles dealing with the many aspects of intravenous urography in practically all countries where complete diagnostic work is being carried out.

Like any new addition to the methods of diagnosis and treatment in medicine and surgery, there is bound to be an over-estimation of the value of such an agent, closely followed by an expression of disappointment by those who have found a greater percentage of failures than were admitted by early enthusiasts. It would appear that the statement of the American distributors to the effect that, "a short time after the injection of this compound, a clear X-ray picture is made of the urinary tract," requires elucidation.

The work of Graham in cholecystography a few years ago stimulated workers to continue the attempts of Rowntree and his co-workers,[1] who, in 1923, published the results of their rather disappointing attempts at visualization of the urinary tract through intravenous injection of sodium iodide in ten per cent solution, also by large doses of the iodide by mouth, and who at that time were able to visualize the bladder and occasionally the pelvis and ureter, in a limited number of cases. Volkmann,[2] repeated a portion of Rowntree's work the following year with similar results. Rosenstein and von Lichtenberg,[3] reported in the same year, similar work of their own at the Urological Congress in Berlin. For a time, little progress had been claimed until 1928, when Roseno[4] was perhaps the first to obtain any practical information by intravenous urography when he used a combination of urea and sodium iodide—$NaI.CO(NH_2)_2$—which he termed pyelognost. Although he was pleased with the roentgenograms obtained, he admitted enough severe reactions to make the latter a definite objection to its use. The following year[5] he reported progress in a presentation of his work at the

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Urological Congress at Munich, giving a complete report to date of his results, describing the methods employed. Other workers up to this time had been carrying out investigations in animals with the halogen salts with varied and rather unsatisfactory results.

Hryntschak at the same meeting, in discussing Roseno's paper, and later reporting his own work in 1929,[6] described his results in about two hundred animal experiments with a large series of iodine and bromine compounds, using as adjuvants to influence excretion as well as movements of the kidney and pelvis and ureter, atropin, pituitrin, urea, etc. He stated that, although he had been working on this problem for two and a half years previously, he had been able to obtain satisfactory pyelograms in but a few cases, but he was hopeful of perfecting his method. At this juncture, Swick[7] commenced his experimental studies with a compound described as N-methyl-5-iodo-2-pyridon, which had previously been synthesized by Binz and Räth, which contained fifty-four per cent of iodine and was found following animal experimentation to be excreted to the extent of about eighty per cent of its iodine content in the urine within sixteen hours. Nausea and vomiting, severe pain at site of injection and occasional diplopia were objectionable factors following its use in the human. Following this work, a compound having an iodine content of forty-two per cent which is readily dissolved in water, forming a neutral solution, was found to be less toxic, and to which these chemists gave the name of uroselectan. This work was carried out under the direction of Lichtwitz in Altona and von Lichtenberg at St. Hedwig's Hospital, Berlin. It is not within the scope of this paper to go into the chemistry of the different substances which led to the synthesization of the last named compound which has been designated as "iopax—sodium 2-oxo-5-iodopyridine-N-acetate — sodium 5-iodo-2-pyridon-N-acetate—$C_5H_3ION.CH_2COONa$," and which was recently approved by the council of Pharmacy and Chemistry of the American Medical Association.[8] Von Lichtenberg has continued his work in perfecting what he considers a more suitable compound and reported at the last meeting of the

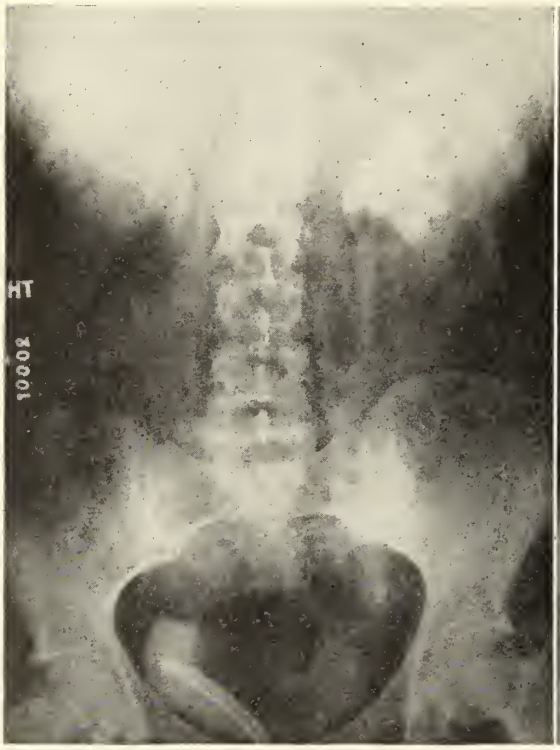

Fig. 1. Hydronephrosis secondary to stone in ureter below pelvic brim.

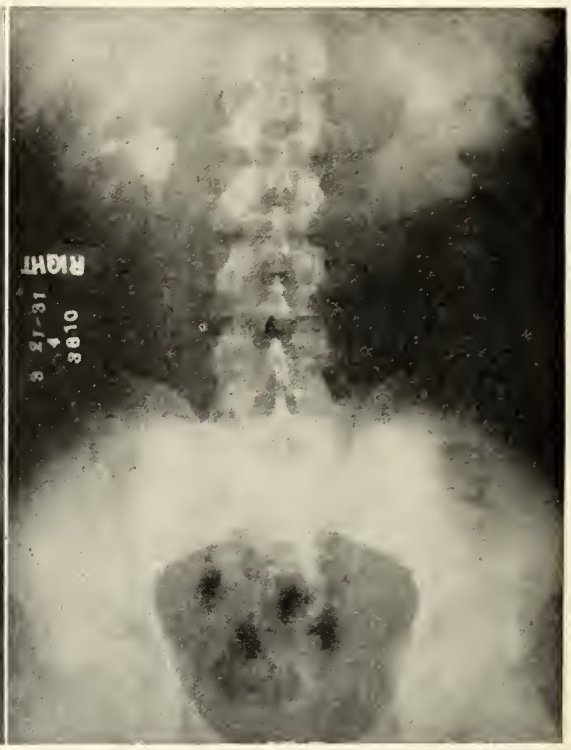

Fig. 2. Left hydronephrosis with normal right kidney.

British Royal Society of Medicine[9] five new contrast preparations for the first time. He favors uroselectan B (D40), one of the five, and states that it contains but one-fifth the amount of iodine of uroselectan or abrodil, that it can be administered in 15 gm. doses, dissolved in only 20 c.c. of water, and that greatest concentration of D40 occurs in thirty minutes after intravenous administration, whereas, the greatest concentration of the former two compounds occurs in from forty-five minutes to one and one-half hours.

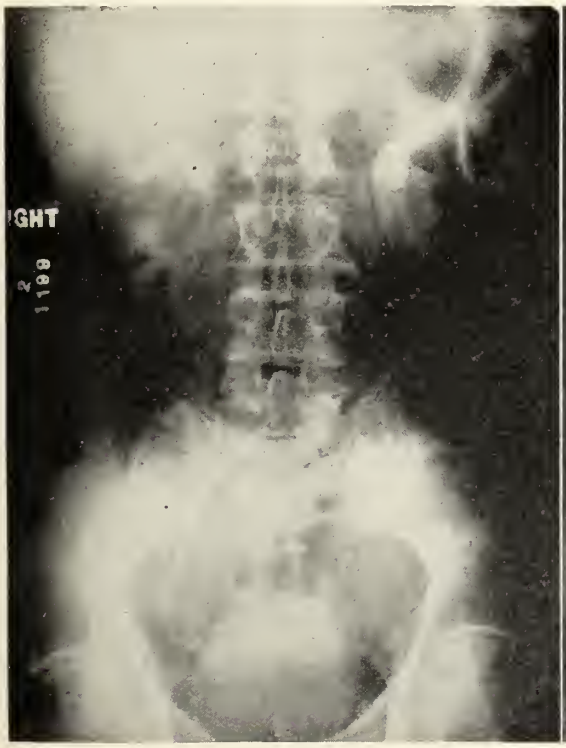

Fig. 3. Bilateral pyelonephritis with double right ureter.

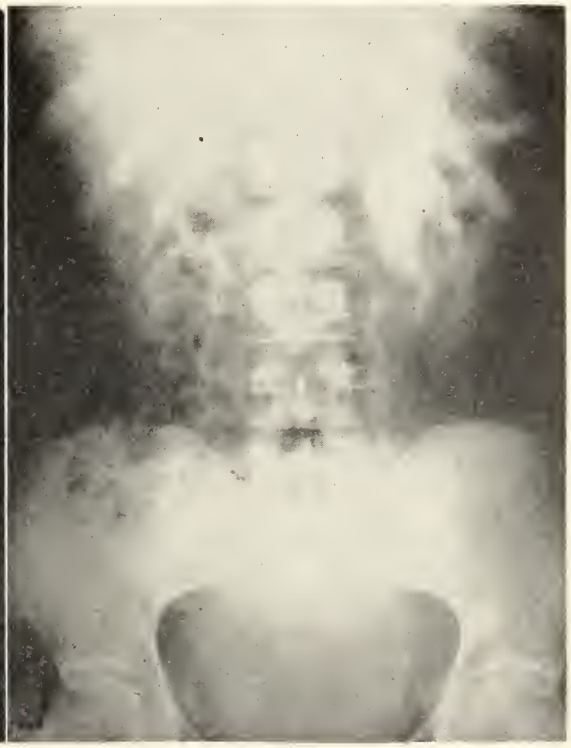

Fig. 4. Hydronephrosis with secondary uereteral angulation.

Many advantages are apparent in the use of excretion urography, the chief desideratum being the absence of the ordeal of retrograde pyelography, more accurate studies of the dynamics of the urinary passages without distortion from over-distention of the renal pelvis and ureter, or reflex inhibition of secretory function of the kidney. Simultaneous excretory function of the kidney with urography may also be carried out. This was done only in a limited number of cases in this series and will not be considered here. With many writers claiming most unusual advantages of intravenous urography, it became at once apparent that thorough trials should be given the least toxic of these compounds and urologists and roentgenologists have co-operated to the extent that a fair estimation of the value of the compounds on the market can now be made. The contra-indications of excretion urography are chiefly: Severe damage to the kidney cortex as revealed by urea retention, phenolsulphonephthalein excretion, and poor concentrating power of the kidneys or advanced pulmonary or circulatory disease. Tuberculosis and thyrotoxicosis are still under discussion as to their contra-indication for the use of such high iodine containing compounds. Although the iodine is excreted in pure form by the kidneys, leaving but small amounts in the body cells, there is still doubt as to the real damage done in the last named diseases.

METHOD OF ADMINISTRATION

The usual dose of iopax used for an adult was 40 grams. This was given in 100 c.c. of double distilled water at body temperature. Previous to administration, the patient was prepared as follows: (1) Com-

pound licorice powder, one ounce at 5 p. m. the day before examination. (2) Cleansing enemas in the morning. (3) No breakfast. No fluids. (4) Eserine one-fiftieth grain, one-half hour before giving uroselectan. (5) Uroselectan injected very slowly at body temperature intravenously over a period of fifteen minutes into the median basilic or cephalic vein.

Fig. 5. Contracted bladder with calculus, nephroptosis, bilateral pyelonephritis with stasis.

Fig. 6. Bilateral hydronephrosis and hydro-ureter.

The first roentgenogram was made fifteen minutes after completion of injection; the second, thirty minutes following; the third, one hour following; and the fourth, one and one-half hours following. It was found that the second roentgenogram, or the one made thirty minutes following completion of injection, or forty-five minutes after commencing injection, was the most satisfactory for X-ray diagnosis; the third, next; the first, next in value; and the fourth the least useful.

REACTIONS OBSERVED

Following administration, symptoms were noted in their order of frequency as follows: Dry mouth 35, generalized body warmth 28, pain right arm or elbow or both 25, localized sensation of warmth at elbow and arm 15, nausea 10, vomiting 3, urticaria 3, pseudo-ulnar palsy one day duration 2, dizziness 1. No alarming reactions were noted although in three cases severe nausea and vomiting caused considerable discomfort to the patient. Most of these reactions were frankly transient.

In thirteen cases of this series, evidence was absolutely nil as regards the upper urinary tract. In six of these cases, poor cystograms were also obtained. In nineteen cases, we have graded our results as indeterminate. In these cases, although an outline was obtained it was never satisfactory for a complete visualization of the urinary tract, and although it was helpful in establishing a diagnosis, the roentgenograms obtained were not highly satisfactory. In eighteen cases the results were highly satisfactory and good evidence of the kidney function as revealed by the roentgenograms. dynamics of the kidney pelvis and ureters and bladder were complete. Of course, there must be no denying the fact that any of the media now in use injected through a ureteral catheter can in every case give perhaps a more clear and dense shadow than

any excreted chemical, at least to date. At this juncture, we wish to state that intravenous urography can not and probably never will compete with the retrograde pyelography in regard to density of shadow and clearness of outline, but it does give great promise of advancement in our X-ray studies of the physiology of the kidneys. Many phases of systole and diastole may be observed through this method which are missed in the former.

Fig. 7. Kidney tumor demonstrated by retrograde urography following failure of iopax.

Fig. 8. Calculus pyonephrosis; calcified gland, course of normal left ureter.

One is frequently requested to carry out such procedures with the hope that complete diagnosis, or at least a complete roentgenographic diagnosis, of the case may be obtained, only to find that, after all, cystoscopy, with the orthodox but often painful retrograde pyelograms, must be done before studies are completed. Commercial laboratories, too, in their enthusiasm, have inferred that this method of urography has reached a highly diagnostic value when used routinely, with the same effect. As shown by recent research, this type of visualization is still in an evolutionary stage and still greater assistance in urographic diagnosis is to be hoped for as time goes on. At the present there is a place for such studies and when positive results are obtained they are frequently valuable. Disappointing results, apparently those of a negative character, certainly have been encountered when this method is used as urographic routine.

In cases of intolerant bladder, tuberculous cystitis, obstruction of the ureter from impassable stricture or stone, extensive bladder tumor, or lower obstructive uropathies, as prostatic hypertrophy, carcinoma, urethral stricture, etc., and in cases where vesical reimplantation or sigmoid transplantation of the ureter has been done. It is often of value where a nephrogram is desired as in renal cysts, and frequently in kidney tumors, although the cases of such growths were not great enough in number in this series to make deduction possible. The best films in this series were obtained in cases where stasis was present, either from atony or mechanical obstruction.

In thirty-six of our cases, retrograde pyelograms were, of necessity, carried out to complete studies for diagnosis. In seven cases where there was definite obstruction from stone or stricture of the ureter, satis-

factory urograms were obtained. In thirteen cases of stasis with or without stone, urograms were also valuable. In two cases in this series, advanced degenerative tissue changes rendered the secretory portion of the kidney inert and the negative findings were helpful.

In thirteen cases in which the observations were of absolutely no assistance, they were diagnosed as follows: Normal 5, pyelonephritis 3, kidney tumor 2, perinephritic abscess 1, renal tuberculosis 2. Perhaps larger doses would have improved results.

The final diagnoses in this series after studies were completed, were as follows: Normal urinary tract 11, double pelvis and ureter 3, polycystic kidney 1, vesical calculus 2, cystitis (acute and chronic) 10, contracted bladder 3, chronic pyelonephritis 10, hydronephrosis 9, renal calculus 5, ureteral calculus 6, carcinoma of bladder 1, tuberculosis of kidney 3, tuberculosis of bladder 2, ptosis (marked) 3, bladder diverticulum 2, ureteral stricture 3, kidney tumor 2, perinephritic abscess 1, pyonephrosis 2, traumatic atresia of ureter 1, renal aplasia 1, tuberculous perineal fistula 1, hypertrophied prostate 6, carcinoma of prostate 2, hydro-ureter 6. Thus it will be seen that a total of ninety-six pathological conditions were diagnosed in this series of fifty cases. In the group in which satisfactory X-ray data were obtained without retrograde urography, the following diagnoses are given: Normal 3, double pelvis and ureter 3, polycystic kidney 1, vesical calculus 2, contracted bladder 3, chronic pyelonephritis 3, hydronephrosis 7, hydro-ureter 4, renal calculus 5, ureteral calculus 5, carcinoma of bladder 1, tuberculosis of kidney 1, bladder diverticulum 2, ptosis (marked) 2, pyonephrosis 2, renal aplasia 1. This group illustrates the higher incidence of diagnostic shadows in cases of stasis from any cause. Thus, roentgenographic evidence was incomplete in a total of fifty-one conditions.

The unfairness of attempting to reduce to an arithmetical proportion of 45/96 is at once apparent and in this series such a method of arriving at a rational evaluation is mentioned only to be condemned. It is not so much a question of which is the better method as it is to select the proper cases in which to employ either method or both. Further use alone can establish the place for this very useful addition to urological diagnosis.

CONCLUSIONS

1. Dynamics of the urinary tract cannot be satisfactorily studied without excretion urography. Distortion is reduced to a minimum with this method.
2. Commercial laboratories should not attempt to sell this method as an all-diagnostic procedure; it is but one of the modi operandi of urological diagnosis.
3. Retrograde pyelography is not to be supplanted by, but supplemented with, excretion urography. Each has its pitfalls and strongholds.
4. Excretion urography is still in the process of experimentation, but even at this early date has proven to fill a place where the retrograde method cannot be carried out for reasons herein enumerated.
5. Excretion urography has come to stay and is a step forward in special and routine urological studies. Its administration is relatively harmless when cases are properly selected.

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PEPTIC ULCER: EXPERIENCES IN THE TREATMENT OF 108 CASES*

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This review is based on our experience in the treatment of 108 patients with gastric and duodenal ulcer. Half of them were observed at the North End Clinic, the remainder in private practice. Eleven were classified as "Results Inconclusive." (*See* VI in Table II). Of the ninety-seven cases, all followed by personal contact, two-thirds were observed from one to seven years, frequently through several recurrences and one-third were followed from four months to one year. The clinic cases were studied individually and were reviewed at a weekly conference participated in by internist, surgeon, roentgenologist, and dietitian. An attempt was made at co-operative management, and the decision as to medical or surgical care was generally a joint one. As nearly as possible whatever facilities were necessary were available, and a long time follow-up policy was maintained. Only positively diagnosed ulcers are included. Naturally many of these cases had treatment of various sorts, including operations, prior to coming under our care. The entire life cycle of the ulcer, not alone the period of our observation, has been studied.

TABLE I
General Data

			Jewish		71
Gastric	26	Male	83	Non-Jewish White	26
Duodenal	82	Female	25	Colored	11
	108		108		108

Age at Onset of Ulcer	No. of Cases	Duration of Ulcer on Admission	No. of Cases
12 years	1	Less than 1 year	17
15-19 "	9	1-2 years	6
20-29 "	34	2-5 "	16
30-39 "	32	5-10 "	25
40-49 "	22	10-20 "	32
50-59 "	8	20-30 "	9
60-69 "	2	30-40 "	3
	108		108

It will be noted from Table I that peptic ulcer is frequently found in young people. Our earliest case commenced in a patient when he was a boy of 12, shortly after starting work in a coal mine. Significant to us is that he was subject to the stresses of adult existence. Noteworthy are the number of cases in which ulcer symptoms appeared for the first time after age 40, a factor which led to confusion with gastric carcinoma in several cases. It is apparent that if gastric symptoms first appear after age 40 no conclusions can be drawn from the age alone as to whether the disease is ulcer or cancer. Before age 40, of course, ulcer is much more frequent.

Some idea of the life cycle of ulcer cases can be obtained from a glance at the figures showing the duration of the ulcer on admission. Over 40 per cent of the patients have a history of more than ten years of ulcer symptoms before coming to us.

TABLE II
Results of Treatment

I. Ambulant Treatment. Uncomplicated cases.
1. Excellent response to one mild ambulatory regime. No recurrences (followed 1-3 years) 5
2. Good response to two ambulatory treatments (followed 3-5 years). One case had appendectomy. 2
3. Fairly good response. Repeated and prolonged ambulatory treatment necessary to control recurrences (average 1-2 yearly) 33
4. Concomitant hyperthyroidism. Good response of ulcer to ambulant treatment..... 3

II. No Response to Strict Ambulatory Treatment. Uncomplicated cases.
1. Bed rest. Excellent response. No recurrences 0
2. Bed rest. Good response. Mild recurrences, subsequently relieved by ambulant treatment 8
3. Bed rest. Poor response. Definite recurrence 5
   3 refused operation.
   2 operation contraindicated.
4. Bed rest refused..... 2

III. Hemorrhage.
9 cases (2 included in operated group) 7
1. Responded to bed rest.....6
2. Responded to surgery.....2
(included in surgical figures)
3. Died (massive hemorrhage)....1

IV. Obstruction.
8 cases (2 included in operated group) 6
1. Good response to medical measures 4

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2. Only fair response to medical management. Refused surgery 2
3. Obstruction at stoma (gastro-enterostomy). Fair response to medical treatment 2

V. Operations.
(Number of patients) 26
1. Perforations (all sutured only) 6
Excellent response, no recurrence 3
Fair response, may need further operation 2
Died 1
2. *Gastro-enterostomy as first or only operation 16
Excellent response (no recur. 2 yrs., 10 yrs.) 2
Fairly good response (no recur. 1-2 yrs.) 3
Fair response (recur. after 3-7 yrs. freedom) 2
Recurred within one year 7
Died 2
3. *Other operations as first operation 4
(Cauterization, gastric resection, 2 Devine operations).

VI. Results Inconclusive 11
1. Too recent to classify 4
2. Follow-up inadequate 5
3. No conclusions drawn 2

Total cases 108

It will be noted from Table II that only 5 cases of the 108 had an excellent response to the first ambulatory treatment. In this small number the symptoms disappeared in short order, the patient resuming a normal diet, minus spices, with no recurrences in the one to three years they were followed. The general impression among the medical profession is that this is a much larger group, and it is only after having followed a number of these cases for a considerable period of time that one can appreciate how few really are permanently cured.

The largest group (33) is listed as giving a "Fairly Good Response" to treatment. In these cases a strict ambulatory regime caused rapid disappearance of symptoms. In a few months or longer the patient was back with symptoms, generally of lesser severity because he had already started treating himself. After a few weeks of restricted diet, perhaps with the addition of powders and antispasmodics, he again was symptom-free. It is this type of case to which Einhorn (1) refers when, recognizing the seasonal nature of the recurrences, he tries to have the patient restrict his diet two to three weeks before the expected attack in the spring or fall. Similarly Kantor (2) states, "We do not tell the patient he is cured, but ask him to live carefully and report to us at the first sign of recurrence." These recurrences are part of the life history of the disease, and for the time being, or until such time as our therapy shall be based upon etiology rather than on symptoms, we will have to accept them as such.

Bed rest was advised in all cases where symptoms did not disappear on ambulatory management, or where the symptoms were so severe that ambulatory treatment was not attempted, and in the presence of complications. All cases severe enough to require bed rest had at least mild recurrences on subsequent ambulatory treatment. The additional five cases with definite recurrences of moderate to severe grade after bed rest treatment, and who were not operated, were to our minds candidates for surgery. Surgery was refused in three of these cases and contraindicated in the remaining two.

We are not under the impression that bed rest affects the life cycle of the ulcer. It is, however, a more positive method of initiating a remission than ambulatory treatment.

MEDICAL REGIME

Our ambulatory management is as follows: For the first two weeks the patient is given 1 glass of milk every two hours on the even hour. In addition at 8 A. M., 12 Noon and 6 P. M., he is allowed any of the following: soft boiled or poached eggs, toasted or slightly stale white bread or Uneeda crackers, cereals, as rice, farina, corn flakes, puffed wheat, puffed rice, custards, rice or tapioca pudding, or ice cream. On the odd hour he takes a powder consisting of 10 grains of calcium carbonate and 10 grains of sodium bicarbonate. The last feeding is at 8 P. M., the last powder on retiring. Extra powders are allowed if night pains occur, in which case a double or triple dose of powder is taken on retiring. The average patient is symptom-free before the end of the first week on this regime. Pureed vegetables are added during the third week, and tender meats and cooked fruits during the fourth and fifth weeks. The powders are then omitted for one week, following which the patient is placed on a fairly generous bland diet, with three extra feedings and four or five powders daily for a period of three to six months. Powders are omitted one week in every five according to the original Sippy formula.

A common fault in the management of

*Secondary operations are not included in this table.

ulcer is the feeling that the dietetic-alkali regime is the beginning and the end of treatment. Even intelligent patients who have had the disease for years will correlate the recurrence with the ingestion of some article of food, without recognizing that recurrences are rather the rule, even with strict dieting, than the exception Diet is, of course, important, and in some cases no other measures are necessary, but for cases which tend to recur at intervals other methods of treatment must be tried.

The eradication of foci of infection is all-important. The foci about the teeth and upper respiratory tract are easily taken care of in private practice, but many of the clinic patients are loath to have teeth removed unless money for plates is available, and many are uncoöperative in the removal of infected tonsils, etc. The removal of foci of infection in the gastro-intestinal tract is a vexing problem. A diagnosis of chronic appendicitis, based on X-ray signs and moderate tenderness over McBurney's point on physical examination does not always convince the patient (nor for that matter the physician) that appendectomy should be done.

In this series 23 patients had appendectomy, three being done before the onset of ulcer symptoms, the remaining 20 after the onset of ulcer symptoms. Of these latter, in only two instances were the ulcer symptoms alleviated for any considerable time (both over four years). Three patients had gall bladder operations after the onset of ulcer symptoms, with no influence on the course of the disease. Even if all ulcers were due to infection, these figures demonstrate that the appendix, for instance, is only one of the possible sources of infection. Relief of ulcer symptoms cannot be promised from appendectomy.

The care of the bowels is especially important in peptic ulcer. The patient often claims that he has gotten no relief from the diet-alkali management, when on close questioning the ulcer symptoms have disappeared, to be replaced by symptoms referable to the large bowel. We have discontinued the use of the Sippy No. 1 powder because the magnesia often sets up a colonic irritation. We rely on large doses of mineral oil, frequently repeated, to care for the almost inevitable constipation occurring early in the treatment.

The relaxation treatment, predicated on the theory that over-stimulation of the sympathetic nervous system causes vascular spasm followed by peptic ulceration, is worthy of thorough and persistent trial. The measures used are antispasmodics, as atropin sulphate, which we give in full dosage; general nerve sedatives, such as luminal, given regularly in adequate dosage; heat, as the full hot bath several times daily, the electric pad or hot water bottle, hot fomentations, and infra-red or ordinary lamp treatments. Diathermy, if administered frequently, should be of value here, but we have had no experience with its use. It is important to interdict the use of coffee and tobacco because of their clinically proven effects in producing symptoms. It is valuable in some cases to explore the patient's psyche for possible emotional disturbances causing a "chronic tensional state" (August, 3), and if found an effort made to adjust the difficulties. In two patients, adjustment of economic situations through a social worker initiated remissions in otherwise intractable cases.

Concomitant hyperthyroidism should be kept in mind. Three cases in our series preceded or accompanied mild hyperthyroidism. In these cases, control of the hyperthyroidism is an essential part of the therapy.

When symptoms persist despite accurate management, especially if night pains occur, aspiration of the stomach before retiring is indicated. We have frequently carried out this treatment on patients at home, and although it is time-consuming, the results are sometimes very gratifying. There is no single measure more successful in the treatment of night pains, and often several nightly aspirations will initiate a remission.

During the past few months one of us has used bacterial vaccines in about 25 cases included in this study This method of treatment has proved of suggestive value, in some cases initiating remission where everything else has failed. No definite conclusions can be drawn as yet owing to the brevity of the follow-up period and irregularity of the response.

Our routine bed rest follows the usual restricted Sippy regime, the limitations and duration of the initial semi-starvation depending upon the severity of symptoms and the response to treatment. Some cases have responded after prolonged rest in bed where

2 to 3 weeks of such treatment seemed to fail. A prolonged modified ambulant management always follows bed rest.

In explaining to patients the rationale of the diet-alkali regime there is at present a tendency unconsciously to over-emphasize the gastric acidity in relation to the "cure" of the ulcer, to the exclusion of other etiological factors. Of course this leads to better coöperation with the diet on the part of the patient, but the physician must be ready with another line of treatment if the first fail. Perhaps Sippy has diverted us from finding a cure for ulcer by his insistence on the alkaline formulæ. It is necessary to be persistent with the medical management, to "tire the ulcer out" if possible. We do not agree with the opinion expressed by some surgeons, who advocate bed rest if ambulatory treatment fails, and if the bed rest treatment does not relieve the patient in two or three weeks that operation is indicated. Medical treatment should be persisted in short of the presence of a complication, such as perforation, high grade obstruction unrelievable by medical means, repeated hemorrhage, and persistence of pain (not distress) despite repeated, prolonged and careful medical treatment There were a number of highly instructive cases in which surgery was advised for pain continuing despite prolonged bed rest treatment, but refused by the patient, and these patients have a minimum of symptoms at present, comparing favorably with much milder cases in whom the question of surgery never arose.

Pain persisting over prolonged periods despite bed rest treatment, or pain responding to bed rest treatment but recurring on ambulatory treatment, and of such severity that it interferes with the carrying on of the patient's ordinary activities, is an indication for surgery Long continued mild distress which does not prevent the patient from carrying on his usual occupation is in itself no indication for operation. It is our experience that by persistence and by changing the method of attack a remission can often be initiated in these persistent cases.

Confusion with carcinoma is at times very real, both clinically and at operation. In three instances in this series it was impossible to resect the ulcer, and in these cases the only grounds for excluding carcinoma is that the patients are alive and well some years after operation.

HEMORRHAGE

Nine of the 108 cases had one or more severe hemorrhages. Of the seven who were given medical treatment (five by us, two elsewhere) five are well today and have been symptom-free for the past year or more. One patient died recently of cerebral hemorrhage. Another, a colored boy age 17, came under our care in a moribund condition after repeated hemorrhages over a period of 4 to 5 weeks, and died a few days later. Autopsy showed a small penetrating ulcer on the posterior wall of the duodenum. As pointed out by Crohn (4) there is a well-known small percentage of deaths from hemorrhage regardless of the type of treatment used, occurring usually as the result of an initial brisk hemorrhage.

Though repeated hemorrhage is ordinarily considered an indication for operation, one of these patients had 4 hemorrhages, the last one 15 months ago; another 3, the last one 3 years ago. One patient had gastro-enterostomy after recovery from the second hemorrhage, and has been well 10 years. Another was operated upon after three weeks of mild continuous oozing despite careful medical treatment, and has been well 6 months.

Almost half of our hemorrhage cases were women, whereas the percentage of women in the entire group is only 23 per cent. This preponderance of hemorrhage cases in women is in agreement with observations already recorded. Crohn (4) states that whereas ulcer is five times as common in the male as in the female, hemorrhage is perhaps twice as frequent in females as in males.

OBSTRUCTION

We have had eleven cases in which obstruction supervened. All except one were males, and most of them had symptoms ten years or longer. Two were obstructed at the gastro-enterostomy stoma, the remainder at the pylorus.

Of the eleven cases, three are still under treatment, hence classified under "Results Inconclusive" (Table II). One of these was a high grade obstruction which required gastro-enterostomy to prevent starvation. The eight cases followed over four months were all treated medically, five with no recurrences in the follow-up period, the re-

maining three with recurrence of obstructive symptoms from time to time. In all three cases surgery was advised, but refused because of the relative comfort experienced when the stomach again compensated. We feel that this relief may be temporary.

The indispensable tool in this complication is the large sized stomach tube. Some of these patients become very adept in using it and we have had patients repeatedly pass it on themselves at home, with good results. Hospital management is preferable, however, as fluid intake and output can be more accurately determined and repeated observations of the non-protein nitrogen and sodium chloride content of the blood made.

Obstruction, even of high grade, is not in itself an indication for surgery unless not relievable by medical means. Sippy demonstrated that 90 per cent of the cases of obstruction were associated with edema of the mucosa and spasm of the sphincter, rather than with scar, and could be relieved by keeping the stomach empty and by frequent small feedings.

SURGERY

In addition to the operations listed in Table II, nine secondary operations were performed, making 35 operations performed upon 26 patients. All except one were males, and 80% were over 40 years of age. Ten operations on nine patients were performed by us, the remainder elsewhere, some by nationally known surgeons. Of the 16 patients who had gastro-enterostomy, only three were done by us.

In the table, the results in the perforations are self-explanatory. Two had very slight symptoms previous to perforation, three had long ulcer histories but were not under treatment for ulcer, one perforated while under our care—having repeatedly refused operation. Of the gastro-enterostomies, it will be noted that one case recurred three years, another seven years, after operation. Similarly one subtotal resection for duodenal ulcer developed a marginal ulcer after 5 years of complete freedom, and the one local operation (cauterization of a duodenal ulcer in a woman aged 40) recurred 3 years and again 5 years later.

It should be realized that several cases in this group represent the stubborn residue of ulcer patients who did not respond to ambulatory or bed rest treatment. The seven intractable cases (listed as recurrence within one year) represent the ulcer diathesis. Observing these patients over several years truly gives one the impression that in some individuals ulcer recurs no matter what is done. The secondary operations included: unhooking, resection of stoma, liberation of adhesions, subtotal or further resections. Two patients had four operations each over periods of 4 and 14 years respectively; one of these has been symptomfree for 3 months (the longest period in 4 years observation) following vaccine therapy, the other has recently had severe obstruction which for the time being has responded to repeated aspiration and frequent feeding.

In summarizing this surgical experience two things stand out: (a) unless patients are followed for several years it is impossible to know what has been accomplished; (b) there is no such thing as one standard operative treatment for peptic ulcer. Simple closure of a perforated ulcer may cure, or cure may be obtained after further dieting, or a second operation be necessary. Gastro-enterostomy is a good operation in some cases; it may require subsequent dieting to control symptoms; it may bring considerable relief with little risk, to an ulcer high on the lesser curvature.

The management of gastro-jejunal and recurrent ulcer is difficult. If the operative treatment fails to relieve the patient and simple dieting still leaves him in pain, three therapeutic possibilities are available: (1) Undoing or redoing operations as unhooking of a gastro-enterostomy, resection of a marginal ulcer, local resection of the ulcer, etc.; (2) more radical surgery, as subtotal resection, Billroth I or II; and (3) prolonged medical treatment. We have been surprised to note the relief obtained at times in these secondary complicated cases by careful medical care persisted in over weeks or months, and also to note the uncertainty with which any operation for ulcer is followed by permanent cure or arrest.

In handling recurrences after operation, our present attitude is an inclination to give the medical treatment of ulcer as wide lattitude as possible, reserving further surgery only for those cases where this prolonged treatment fails, where hemorrhage or obstruction is not relieved, or pain persists.

No operation is finished without post-operative control, and no plan of therapy is

complete which does not include periodic follow-up, for it is by this means alone that one will know what has been accomplished.

SUMMARY

1. Our experiences with 108 gastric and duodenal ulcer cases, followed by personal contact for rather long periods, is recorded.

2. Ulcer cases often have their initial symptoms after age 40, a fact which should be kept in mind in the differential diagnosis from carcinoma.

3. The importance of other factors in treatment than the usual diet-alkali regime is emphasized. Among these are the removal of foci of infection, relaxation, bed rest, nightly aspiration, and bacterial vaccines. Persistence in medical treatment in refractory cases, with changing the method of attack is advocated.

4. The life cycle of an ulcer is characterized by frequent recurrences. The largest group of ulcer patients are those who respond to repeated ambulant treatments.

5. Medical treatment should be persisted in short of the presence of complications, as perforation, high grade obstruction not relievable by medical means, repeated hemorrhage, or persistence of pain interfering with the patient's occupation.

6. There is no single operation for ulcer, but each case presents an individual problem. Recurrences may take place after any type of operation.

7. In the management of secondary and recurrent ulcers, prolonged medical management, if possible, is preferred. A certain small number of cases, representing the so-called ulcer diathesis, are apparently refractory to any present day therapy, either medical or surgical.

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THE DAMAGED HEART IN INDUSTRY*

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My object in presenting "The Damaged Heart in Industry" is to indicate the possibility of engaging workers with subeffective hearts for productive positions in industry. I have approached this subject not with the idea of discarding existing knowledge of cardiac handling, or with a purely idealistic attitude, but with the hope that I can attract attention to the view that all damaged hearts are not necessarily excluded from usefulness in active manual work.

At this period of wide-spread unemployment, we may be prone to set our physical standards even higher than normally, thinking that this is a splendid opportunity to weed out, clean house, and make our physical selections absolutely one hundred per cent. Each physician will, of course, follow the dictates of his judgment in this matter. Allow me to suggest that many likely employes thus rejected may be future social burdens, or will drift to those employers who are not protected by medical direction and advice in employment, and be placed on work to which their physical condition is entirely unfitted. The same result is attained by either method.

The management and handling of a cardiac case is not within the logical scope of a physician in industry, but should be under the treatment or observation of the employe's personal physician. That phase of damaged hearts will not be considered in this paper.

When contemplating the pathological heart, our medical minds visualize a patient wholly or partially decompensated either in bed or otherwise incapacitated. It is quite possible that these people have not reached their present state by over-exertion, but by some over-indulgence or poisoning by toxic

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gases, metals or dusts by a recurrent infection. Let us consider the ambulatory cases which, without a physical examination, would pass employment requirements and thence to work. Let us say as a barrier to the physically defective and a protection to the applicants, present employes, and employer, a physician is employed. To him come the applicants, eager, often unwashed hordes. Here is an opportunity to cast away hundreds of potentially excellent, steady, conscientious producers, through inexcusable ignorance. An adventitious sound is heard in, or about, the heart. Thumbs down! Why? (1) Because there is something, somewhere wrong with the applicant's heart or circulatory system. (2) The industrially disinterested physician's knowledge ends with his immediate surroundings. He knows that somewhere outside the partitions in that crashing, banging, clanging, bumping turmoil is work. Damaged heart plus work, to his mind, equals loss of time, if not catastrophe. Having no knowledge of the nature of work and varieties of work to be done, he takes no chances. He visualizes syncope, accident. He visualizes compensation suits. He dares not risk criticism. The applicant is rejected. Applicants may present disturbances ranging from symptomatic tachycardia, bradycardia or arrhythmia to what we see in hospitals in advanced forms, organized structural changes.

How are we going to differentiate, select and decide to place, or not to place? (1) By having the authority to dictate the policies relative to health placements. (2) To have fixed policies. (3) To be able to diagnose and differentiate. (4) To have a complete knowledge of the nature of the work that the applicant is selected to do and what he is apt to be called on to do in his department.

Many cases of apparently damaged hearts give only temporary symptoms; so temporary that one examiner may hear an adventitious sound and the other not. In other words, it has disappeared, showing it to be innocuous. Time should be allowed to take a thorough history of all cases presenting heart lesions. It is the fair thing to do for both applicant and employer. Question and surmise past history. Delve into habits, into previous acute illnesses, into history of recurrent rheumatic attacks, into the history of old scars. Illuminating pertinent facts can thus be elicited. As you know, tachycardia is frequently produced by temporary nervousness, shock, fright, excitement, extrinsic stimulæ. By ingestion of a tasty but not wisely chosen meal. Paroxysmal tachycardia, which is no more or less than an example of physics—the relative depletion of the arteries through dilatation of the veins; this condition has been termed "arterial anemia" by Hirshfelder.

Perhaps too much concern is felt by the examining physician in industry regarding the arrhythmias. True, if these are associated with grave structural changes there is little to do but advise the applicant that his physical condition is not compatible with the work for which he has applied. Return him to the employment office for re-consideration or, if he is entirely industrially unfit, refer him to a medical source for advice. However, if an arrhythmia can not be connected with a structural change, either in heart or arteries, it is a social and economic waste to reject the applicant. Sinus arrythmias are physiologic in most cases. Then there is the little sound, which has been run to earth and christened systolic whiff, so fleeting that it is frequently not detected, and so unstable that perhaps no two examiners within the same day could hear it.

Even the most conservative insurance companies are willing to accept certain arrhythmias without premium rate increase up to the age of thirty-five. Six extra systoles per minute are also allowable to the age of thirty years.

The labor referred to has been the manual type. Just how much psychic effects bear on cardiac conditions in industry is an interesting study in itself.

Example.—A man, aged 28, with a rather marked mitral regurgitation, but little hypertrophy (which is not usually a good industrial risk), occupied a position as an electric spot welder. This is a rather active but not an excessively heavy job. He followed this work for four years without ill effects. He was attacked with pneumonia. He fully recovered with but little trouble. His heart displayed no further changes. It was felt to be better judgment to transfer him to a semi-clerical job. He had originally accepted manual work because of the opportunities of making a greater amount of money. He was placed as a rate setter, which involved no manual work but did require considerable nervous tension and irritating contacts. At the end of a year this man developed a marked decompensation. He was now compelled to quit work entirely. I do not believe his attack of pneumonia bore any part in his breakdown. The nervous tension was undoubtedly the cause.

For convenience in forming intelligent policies for definite decisions and for stated reasons to support the policies, it is frequently helpful to have fixed groups with which to classify the cardiac cases. There is perhaps no easier pathologic condition of the body than the diseased heart, to classify in definite groups. The heart in its structure and specific functions is so nearly akin to the finely balanced machinery of industry that it should strike a strong chord in the mind of the physician of industry.

While there is no pretense made to advise the remedial measures to be followed in the treatment of a damaged heart, let us remember that an attempt to put ambulatory cardiac cases at entire rest and allow the musculature to become inert, must be precluded as a therapeutic error. The heart does not differ from other muscular structures and exercise keeps the heart and circulation at their respective proper tone.

I would head the grouping with the classification broadly labeled—"potential cardiac cases." Under this heading come those who have suffered attacks of rheumatic fever, tonsilitis, swelling of the maxillary or sublingual glands, carious teeth. These are potential causes which damage hearts to an unknown extent and severity. Personally, I feel that these cases should not become employes of any kind until the focus of infection is found and removed. They are without present heart disease symptoms and are admitted as such. In six months' time, unless absence caused by a recurrence of the absorption of the infection brings them to the attention of the physicians, they may exhibit a marked myocarditis or endocarditis, which would continue until a death or hopeless destruction of heart structure would bring attention to the sufferer.

The second grouping brings within its scope all functional murmurs, tachycardia of extrinsic origins, and those having extracardiac origins, except hyperthyroidism, arrhythmias, functional in origin. This class could be safely dismissed from the list of damaged hearts and an unlimited work placement made.

The third grouping.—Applicants under the age of forty years with no asthenic appearance, fully compensated, with a sense of well being, without irritability, demonstrating a persistent mitral systolic murmur without hypertrophy or with slight hypertrophy, with lesion quiescent and absence of recognizable focal infection. These are normal risks and can receive unlimited placement if periodically observed.

The fourth grouping.—Chronic myocarditis with hypertrophy. This group deserves selected unlimited placement with periodic observations, especially relative to degree of cardiorenal vascular disease. This disease is slowly progressive even under normal labor strain, and the blood pressure and quantity of albumin in the urine is the safety factor. Physical examination of these employes should be made at least twice yearly.

Fifth grouping.—Aortic types. Of course, an applicant presenting an aortic lesion is rightfully considered with seriousness by any medical examiner. However, an aortic lesion with hypertrophy and fully compensated, can receive consideration of limited employment. Partial sitting positions, inspection of small articles, grinding pens, soldering radio parts, door men, packing small articles, packing cakes and biscuits, gluing small articles, measuring and weighing articles which, if large, require no physical strain in handling, watchmen, if no climbing of stairs is involved.

Sixth grouping. — Cardiac insufficiency cases of any type should, perhaps, not seek manual labor. They are usually accompanied with a mild decompensation and are inclined to rapid degeneration under the stress of physical activity.

Having somewhat arbitrarily classified the cardiac conditions that may cause us to pause, ponder and flounder, we can now, with assurance, feel that we have our factors and will adhere to them.

Age must be one of the deciding factors in the mind of the physician when faced with the decision of possible placement of a defective heart. Let us arbitrarily put the age limit of a new applicant with a damaged heart at forty. While cardiac diseases are quite numerous among children of school age, vascular diseases do not usually appear until the age of forty. The combination of a fully developed cardiac fault plus the degeneration of the vascular system would lead to unhappy results if subjected to physical overstrain.

It is particularly unfortunate that children of school age suffering from cardiac affections are enforced to long absences from their studies. Many are entirely unable to

finish their elementary education, making a technical education and training impossible, thus cutting off future opportunities of becoming draftsmen, engineers, and following other professional pursuits.

My opinion is not classed entirely on supposition or theory. It pleases me to have at hand some figures which without inflicting statistics may prove interesting. After the War, many men who had passed before me and my associates with affected hearts, both in industry and those whom we, as members of a Medical Advisory Board, had confidently passed as fit for selected service, came home. Those who did not come home did not die of their existing heart lesions. Those who returned were hard, hardy, well nourished men. They had accomplished hard marches, military life and routine. S. Neuhof gives considerable space in his book, "The Heart," to describing individual cases, their lesions, what duties they did with health ease, and express his opinion that damaged hearts, selected with prudence, can do their full share of productive work.

From 1920 to 1930, 129 cases of damaged hearts were productively employed at our plant in manual occupations. Forty-two cases of mitral stenosis without hypertrophy. Eighteen cases of mitral stenosis with limited hypertrophy. Fifty-seven cases of arrhythmias without apparent organic complication. Ten unclassified functional murmurs.

Three of this group have died of their cardiac conditions, although each one was on a selected work. In each case there were enough facts surrounding the deaths to fasten the exciting cause of death to indulgences outside their occupation. These cases will be recognized in a summary given immediately.

It is a frequently expressed thought, and one to which I give much credence, that no matter how carefully a group of applicants are examined, cardiac cases will slip in while others will appear quickly and subtly in robust employes. In the past seven years we have a record of 186 deaths occurring among our employes. Of this number, thirty-eight, or 20 per cent of all deaths, were due to some form of cardiac disease. These causes of death were frequently accepted from death certificates following sudden death and probably are in no degree absolutely correct. They are as follows:

2—Acute endocarditis	
12—Myocarditis	1—age group 30 to 40 5—age group 30 to 40 3—age group 50 to 60 3—age group 60 to 70 1—over 80
1—Chronic pericarditis	age group 50 to 60
2—Aortic regurgitation	age group 50 to 60
7—Acute dilatation	4—age group 40 to 50 3—age group 50 to 60
(Three of the seven died during the week end. One had been drinking.)	
2—Mitral regurgitation	1—age group 30 to 40 1—age group 50 to 60
2—Angina pectoris	1—age group 40 to 50 (Died during first known attack in our dispensary. Work not heavy.) 1—age group 60 to 70 (Died at home.)
2—Ruptured aneurysm	
8—All others	1—age group 60 to 70 1—age group 20 to 30 1—age group 30 to 40 4—age group 40 to 50 2—age group 50 to 60

The known causes of the other 148 deaths and against these thirty-eight heart deaths, were:

Due to pulmonary conditions	47
Due to diseases of abdominal viscera (except cancer)	19
Due to diseases of renal system (except cancer)	5
Due to cerebral hemorrhage	16
Due to general paresis	5
Due to diabetes	2
Due to cancer and other tumors—all parts of the body	20
Due to accidents or homicides—(only 7 of these accidents were industrial)	26
Suicides	8

Of the thirty-eight heart cases only three had any record of cardiac physical findings at the time of their last examination at the plant.

Of the thirty-eight who died of heart disease, eighteen died suddenly after less than two days' illness. Four had other complications. Three died while on the company premises, one in the dispensary, one while walking through the plant on the way home with a foreman's pass because of not feeling well but not having reported to the dispensary. The history of neither man indicated that he had been engaged in any heavy work that day, nor did either case do heavy work. The third died while playing basketball in the evening on our premises. Diagnosed by the coroner as "valvular heart disease." Age group between 20 and 30.

The other thirteen died over the week

end. This particularly applies to those cases in which the death certificate bore cause of death, "acute dilatation of the heart."

A year ago in London I was privileged to examine 159 workers employed in a chemical plant. Of these, there were eight cases of aortic type, one with mitral stenosis and seven cases of marked tachycardia. All these cases were apparently in health and losing no more than the average number of days. All eight cases of the aortic type were on comparatively light work. The selection of work for these workers with aortic lesions was apparently made from the fact that all had long term service records and some suffered with "shortness of breath." It is interesting to note that three of these workers admitted syphilitic infection within the past fifteen years.

Our best intentions regarding the placement of employes with damaged hearts are frequently thwarted by rulings of existing beneficial associations or the curious wording of some state compensation insurance laws. In those states having occupational disease compensation insurance laws, the examiner must necessarily be especially prudent in his selection of affected hearts. Certain states still maintain the clause, "in the course of employment," and do not include the expression, "arising out of." This is indeed a difficult situation to surmount.

Knowing that a nationally known physician attached to a large steel mill had been making observations of the effects of manual labor on cardiac cases, I wrote asking him the results he had obtained, and the privilege of citing his work in this paper. His answer is as follows:

"I did not get very far in the heart work. Shortly after I talked with you we changed our relief and benefit scheme and it is hard now for us to employ 'poor hearts.'

"We do, however, keep our old ones, and those I had in mind when I talked with you are still here.

"Another with a marked myocardial degeneration worked as a laborer for two years.

"I am still just as much at sea as ever and am sorry I cannot help you. I am convinced from observations that many so-called heart cases are still good men."

Believing that a word of caution, to balance my seeming optimism, is fitting, I would strike a word of warning to any who may seek to be adventurous in their experiments with muscle fatigue of the diseased heart. Be sure of your diagnosis and classification. Make no placements amid harmful gases, vapors or poisonous dusts. Keep a careful record of entrances. Impress on the mind of the employe, not the danger of his heart, but the importance of a routine follow-up and re-examination. On or about the date for re-examination, let nothing prevent its fulfillment. Be sure that the employe is not transferred to other work than that for which he is originally selected until you have given your approval.

The various heart clinics have a standard classification relative to employment placement formulated by the Association of Cardiac Clinics, as follows:

Class I. Patients with *organic heart disease* who are *able to carry on* their *habitual physical activity.*

Class II. Patients with *organic heart disease* who are *able to carry on diminished physical activity.* (A) Slightly decreased. (B) Greatly decreased.

Class III. Patients with *organic heart disease* who are *unable to carry on any physical activity.*

Class IV. Patients with *possible heart disease.* Patients who have abnormal *physical signs* in the heart, but in whom the general picture or the character of the physical signs leads us to believe that they *do not originate from cardiac disease.*

Class V. Patients with *potential heart disease.* Patients who do not have any suggestion of cardiac disease, but who are suffering from *an infectious condition* which may be accompanied by such disease; *e.g.,* rheumatic fever, tonsilitis, chorea, syphilis, etc.

As this classification, only, is followed by the heart placement bureaus, it is difficult to ascertain the specific diagnosis of those placed in industry. During 1930 the Cardiac Placement Bureau of the Philadelphia Health Council and Tuberculosis Committee placed in industry thirty-nine people. This group was composed of both men and women. They were placed conservatively and all on very light work; telephonists,

soldering on radio parts, wrapping chewing gum, sewing in book bindery, making lamp shades, mechanical dentistry, packing in shirt factory, order man in warehouse, night watchman on construction job.

These positions, you will please realize, were given to people who were definitely advanced cardiac cases and had been diagnosed, treated and referred by a heart clinic. The placement of these people in industry is an outstanding piece of work and such work has a monumental place in American life.

This leaves, however, that great unnumbered mass of undiagnosed, untreated, unadvised and unclassified people going around, frequently making a superhuman effort to accommodate their physical condition to the necessity of keeping up the obligation of normal life.

Each industry has its individual obligation to community life. As these people present themselves as applicants for positions from which they can create and support a family unit, it is our civic obligation to have an established specific policy adaptable to the industry by which these cases can be selected and placed to mutual advantage.

I am indebted for their collaboration to my associates in the Medical Department of the Edward G. Budd Manufacturing Company and Budd Wheel Company of Philadelphia and Detroit, and Dr. A. G. Beckley, our medical consultant in Philadelphia.

OPHTHALMIC CONDITIONS OF CHILDREN IN THE RURAL PARTS OF MICHIGAN

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Among the weekly reports submitted by the various county public health nurses, under supervision of the Children's Fund of Michigan, were found suggestions to the effect that many children in their rural communities were in the need of eye examinations. Accordingly, the Trustees of the Children's Fund of Michigan voted an appropriation which permitted a three months program to investigate the eye conditions in the various rural parts of Michigan. Feeling that this need was greatest in those counties which were farthest from large cities it was decided to commence first in them. The counties selected accordingly were Newaygo and Osceola, which together have an approximate population of about 21,000. The bulk of the population is approximately fifty miles and thirty miles, respectively, from Grand Rapids, Michigan (150,000 pop.), and Muskegon, Michigan (50,000 pop.).

The work was commenced on September 25, 1930, and was concluded on December 31, 1930. The program adopted was as follows: The first three days of each week were spent in refracting and examining the children. Instillation of drops, fitting and delivering the lenses was done by my assistant, who was especially trained for this work. During the last three days of each week she delivered the glasses, compiled our records and made preparations for the following week. In addition we were assisted by the nurses of the two counties in which the work was carried on. The work of the nurses in our program consisted of the following: Examinations were made by them of all the school children (total 5,168). All those who had complaints suggestive of eye strain or defective vision were urged to consult an ophthalmologist. It is of interest to note that although many of the examinations by the nurses were done as far back as nine months before our work commenced, less than 5 per cent actually consulted an eye specialist. In all, we examined over 800 children, and it is safe to say that 150 did

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not come in for one reason or another. Necessary transportation arrangements were also made by the nurses. No small credit is due these two women, for it was due to their tireless work that we were enabled to examine so many children in forty-four working days.

Newaygo county, which had the bulk of the population (17,000) was first selected. Our headquarters in this county were located at the Court House in White Cloud, where several rooms were placed at our disposal. Our equipment was similar to that found in the average opthalmologist's office—we used the Standard Illuminated Charts. Because of the fact that the visions taken by the nurse were often under unsatisfactory lighting conditions, we recorded the visions found by ourselves under uniform standard lighting conditions. We succeeded in examining about 20 patients a day. Included in our group were 18 pre-school children, as well as 10 post-graduate high school students (normal school students). Two per cent homatropin was used as the mydriatic. In cases where accommodation was found to be present after instillation, 1 per cent atropin was instilled and the patient was examined the following day. Although homatropin was not deemed the ideal mydriatic, nevertheless it was found to be the most expedient. At first we intended to use atropin but this idea was discarded for a number of reasons: (1) Our nurses informed us that many of the parents were quite illiterate and hence that it might not be safe for them to use atropin. (2) Many of the parents were prejudiced against mydriatics, thinking them to be dangerous. In order to dispel any false impressions a routine letter was sent to each of the parents informing them of the need of a mydriatic, its benefits and harmlessness. In spite of this a certain number stayed away for this reason. For the most part glasses when found to be necessary were prescribed on the basis of mydriatic findings. In about 5 per cent of the cases, a post-mydriatic test was found to be advisable and done. Frames, when glasses were prescribed, were fitted by Miss McIntyre, who subsequently delivered them herself.

Glasses were furnished free to indigent children and the actual cost of the glasses was charged those who could afford to pay. Judging from our records, over 80 per cent of the children were found to be indigent. No doubt the present financial depression was a contributing cause to the high degree of indigency. As has been previously mentioned the patients seen at the clinic consisted of two types: (1) Those complaining of defective vision and (2) those with complaints which the nurse thought might be attributable to eye strain. In addition, the pre-school children were examined at the instigation of their parents, even though there were no complaints. Below is a brief classification of the majority of the complaints based on the findings in 809 children. A number of other children were examined whose records are not included due to the fact that complete data were not obtainable for one reason or another.

Complaints	*Total*	*Percentage*
Visual complaints (one or both eyes)	559	69.0
Headaches	556	68.0
Blurring (while reading)	250	30.0
Tearing	193	23.8
Blepharitis	72	8.9
Hordeolums	71	8.7
Granular lids	67	8.2
Discharge	57	7.0
Photophobia	53	6.5
Dizziness	53	6.5
Squints	47	5.8
Diplopia	27	3.3

As the classification shows, visual disturbances of either one or both eyes, headaches, tearing and blurring while reading, were given as the most common complaints in the order mentioned. 556 children gave headaches as one of their complaints, and of these 556 children, 453 were prescribed glasses. It should be borne in mind, though, that some of these children who complained of headaches had other eye complaints. It is of interest to mention, however, that of 479 children who had 20/20 vision 164 were prescribed glasses where headaches alone was the complaint. There is no doubt that headache is one of the most common causes of complaints in children and that it is certainly advisable to rule out eye strain as a cause before more extensive examinations are undertaken.

The following is a résumé of the children examined based on ages:

Age	*Number of children examined*	*Number of glasses prescribed*
5	18	10
6	38	22
7	38	24
8	54	35
9	60	46
10	86	58
11	84	59
12	93	60
13	84	58
14	81	65
15	65	40
16	49	30
17	36	29
18	12	10
19	10	8
20	1	1

The visions as well as subsequent visions obtainable after correction are listed below. Our classification of visions is based on that of the better eye.

Number of children	Percentage	Uncor. vision	No. glasses prescribed	Visions improved to: 20/20	20/30	20/40	20/50	20/60	20/80	20/100	20/200	F. C.
479	59.2	20/20	265	265								
163	20.1	20/30	128	120	8							
41	5.0	20/40	41	26	15							
42	5.1	20/50	41	29	6	3	3					
12	1.4	20/60	12	11	1							
4	.5	20/80	4	3	1							
39	4.0	20/100	37	25	4	3	4			1		
27	3.3	20/200	25	15	3	2	1	2		2		
2	.2	Finger Counting	2	1								1
809			555	495	38	8	8	2		3		1

The classification as has been mentioned is based on the vision of the better eye. It is for this reason that the percentage of uncorrected 20/20 vision is 59.2 per cent. Actually 305 instead of 479 had a vision of 20/20 in both eyes. Most of the children, as can be seen from the above mentioned figures, were brought up to 20/20 vision following correction. Out of 330 children whose vision was 20/30 or less, 230 of them were raised to 20/20.

The actual amount of pathology seen was very small and consisted of the following: Interstitial Keratitis (1); Bilateral dislocated lenses (1); Phthisis Bulbi (1); Rupture of choroid (1); Leukoma of cornea and atrophy of eye, following knife injury (1); Traumatic dislocated lens and subsequent amblyopia (1); Chorio-retinitis bilateral (1); Choked disc (1); Primary atrophy of both discs (1); Unilateral atrophy of temporal aspect of optic disc (1); Several cases of corneal scars, and Progressive Myopia (3).

In all forty-seven squints (forty-four internal and three external) were seen. Of this number eight were already wearing glasses, whereas forty-five were prescribed glasses by me; two cases were present where no refractive error was found. In quite a few instances more than one member of a family was found to be suffering with a squint. In fact, in several families as many as three children had squints. Because of this condition several of the parents brought into the clinic some of their other children of pre-school age. Some of these pre-school children had even higher errors than their brethren who had squints, and I believe it is safe to assume that at least some of them would have developed a squint; this they might do anyhow but their chances are less and even if they do the amount of deviation will be a whole lot less.

Previously it has been mentioned that eighteen children of pre-school age were examined. These children had no particular complaints. They were brought in by their parents, who wished to avail themselves of the opportunity of getting these youngsters examined. Of eighteen examined ten were prescribed glasses. The prescriptions of these youngsters were as follows:

$+0.25 + 1.00 \times 75$	$+1.75 + 1.00 \times 80$
$+1.00 + 0.50 \times 75$	$+2.00 + 0.50 \times 90$
$+1.25$	$+2.25 + 0.25 \times 75$
$+1.50$	$+3.25 + 0.25 \times 90$
$+1.75 + 0.50 \times 75$	$+6.00 + 1.00 \times 105$

That the refractive error can be very high and 20/20 vision be maintained is borne out by the following chart. Prescriptions of 265

children with 20/20 vision prescribed glasses were:

Number	*Errors*	*Number*	*Errors*
5	+ 0.25	4	+ 2.00
1	+ 0.25 + 0.25 × 75	1	+ 2.00 + 0.12 × 90
1	+ 0.25 + 0.25 × 80	2	+ 2.00 + 0.25 × 75
3	+ 0.25 + 0.25 × 180	1	+ 2.00 + 0.25 × 80
6	+ 0.50	1	+ 2.00 + 0.25 × 90
2	+ 0.50 + 0.25 × 75	1	+ 2.00 + 0.75 × 75
1	+ 0.50 + 0.25 × 85	1	+ 2.00 + 0.75 × 85
3	+ 0.50 + 0.25 × 90	5	+ 2.25
1	+ 0.50 + 0.25 × 105	1	+ 2.25 0.25 × 75
1	+ 0.50 + 0.37 × 80	1	+ 2.25 + 0.25 × 80
1	+ 0.50 + 0.50 × 60	1	+ 2.25 + 0.37 × 75
1	+ 0.50 + 0.50 × 80	1	+ 2.25 + 0.75 × 90
3	+ 0.50 + 0.50 × 90	1	+ 2.50
10	+ 0.75	1	+ 2.75 + 0.75 × 80
1	+ 0.75 + 0.25 × 60	2	+ 3.00
4	+ 0.75 + 0.25 × 90	1	+ 3.25 + 0.50 × 60
1	+ 0.75 + 0.50 × 70	2	+ 3.50
1	+ 0.75 + 0.50 × 75	1	+ 3.50 + 0.75 × 75
1	+ 0.75 + 0.50 × 85	1	+ 3.75 + 0.50 × 90
3	+ 0.75 + 0.50 × 90	2	+ 4.00
38	+ 1.00	1	+ 4.25 + 0.50 × 75
3	+ 1.00 + 0.25 × 75	1	+ 4.50 + 0.50 × 90
1	+ 1.00 + 0.25 × 90	1	+ 5.00 + 0.50 × 85
1	+ 1.00 + 0.25 × 105	1	+ 5.75 + 0.25 × 45
1	+ 1.00 + 0.37 × 105		
1	+ 1.00 + 0.37 × 180		
2	+ 1.00 + 0.50 × 75	1	+ 0.25 × 60
4	+ 1.00 + 0.50 × 90	1	+ 0.25 × 95
1	+ 1.00 + 0.75 × 90	2	+ 0.25 × 105
1	+ 1.00 + 0.75 × 95	1	+ 0.50 × 90
1	+ 1.00 + 1.00 × 90	1	+ 0.50 × 120
1	+ 1.00 + 1.00 × 180	3	+ 0.25 + 0.50 × 75
28	+ 1.25	4	+ 0.25 + 0.50 × 90
4	+ 1.25 + 0.25 × 75	1	+ 0.25 + 0.50 × 120
1	+ 1.25 + 0.25 × 85	2	+ 0.50 + 0.50 × 75
8	+ 1.25 + 0.25 × 90	3	+ 0.50 + 0.50 × 90
1	+ 1.25 + 0.50 × 45	1	+ 0.75 × 75
1	+ 1.25 + 0.50 × 75	1	+ 0.75 × 90
1	+ 1.25 + 0.50 × 85	1	+ 0.75 × 105
2	+ 1.25 + 0.50 × 90	1	+ 0.25 + 0.75 × 90
1	+ 1.25 + 0.75 × 90	1	+ 0.50 + 0.75 × 75
19	+ 1.50	1	+ 0.50 + 0.75 × 80
1	+ 1.50 + 1.12 × 90	1	+ 0.50 + 0.75 × 85
1	+ 1.50 + 1.25 × 75	1	+ 0.50 + 0.75 × 90
2	+ 1.50 + 1.25 × 90	1	+ 0.75 + 0.75 × 60
3	+ 1.50 + 0.50 × 90	1	+ 0.75 + 0.75 × 90
1	+ 1.50 + 0.75 × 95	1	+ 0.75 + 0.75 × 105
1	+ 1.50 + 0.75 × 105	1	+ 1.00 × 60
10	+ 1.75	1	+ 0.50 + 1.00 × 85
2	+ 1.75 + 0.25 × 90	1	+ 0.50 + 1.25 × 95
1	+ 1.75 + 0.50 × 75	1	+ 0.50 + 1.50 × 85
1	+ 1.75 + 0.50 × 85	1	+ 1.50 × 90

Strange as it may seem a number of children were found with errors from three to five diopters and yet their complaints were quite negligible. On the other hand others with the smallest errors complained most bitterly. Every case is therefore a problem unto itself.

As has been previously mentioned most of the children who were examined by the nurses had been urged to consult an ophthalmologist. Less than 5 per cent actually did so. Of all the children examined only forty-seven were found to be wearing glasses and of those only ten were prescribed under a mydriatic. Some of the children were fitted by mail, others by a representative of one sort or another who travelled from town to town. In some cases several members of the same family alternated wearing the same pair of glasses. In short, the condition of affairs was not found to be conducive to good health. There is no doubt in my mind that many a child in these communities regarded as stupid or mentally deficient would greatly improve after the correction of visual defects.

The three months study certainly proved the need of some sort of a program whereby children in rural communities be examined by an ophthalmologist. How best to solve this problem I am not prepared to say at this time. One thing is certain: many thousands of children in rural communities are neglected and a great deal of amblyopia is occurring which can be prevented.

I want to acknowledge my utmost thanks to Dr. B. W. Carey, Medical Director, for his coöperation and assistance; to Mr. W. J. Norton, the Executive Director of the Children's Fund of Michigan; to Miss Andrews and Miss Hurt, the County Nurses; to Miss McIntyre, my Assistant, and to Miss Keppler, my secretary.

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CERVICAL RIBS

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The infrequency with which cervical ribs are met with, or at least recognized and reported, has caused me to believe that more attention should be called to this distressing but readily relieved anomaly.

The fact that I have had occasion to operate successfully upon four cases in the last three years (two of my own and two referred) makes me wonder if many cases are not overlooked. I have been in active practice nineteen years and these four cases are the only ones I have recognized, and many of my colleagues of whom I have inquired say they have never recognized or heard of one.

The present day surgical works give cervical ribs slight mention or but a passing paragraph.

To review the anatomy according to Gray, "Cervical ribs are an abnormal outgrowth of bone from the anterior roots of the transverse processes of the seventh cervical vertebra." They are of not infrequent occurrence and are important clinically because of the obscure nerve and vascular disturbances to which they give rise. They vary in size and length, are single or bilateral, extending occasionally as far as the first thoracic rib.

Symptoms.—The symptoms naturally depend upon the size, length and direction of the rib development. Pressure upon the subclavian artery may produce atrophy of the arm and finger and even gangrene. Pressure upon the brachial plexus may give rise to severe pain in the arm and fingers accompanied by trophic and functional disturbances.

Late cases probably will not be difficult to diagnose, but it is most important to recognize the trouble before the injury is too extensive if complete recovery is to be expected. A patient who complains of persistent, even though not severe, tingling and anesthesia and neuralgic pains in the arm and hand should have an X-ray examination of the cervical vertebræ. These symptoms continue with more or less persistence and increased severity until there is a loss of strength in the affected arm and hand, with a wasting of the muscles between thumb and index finger. In the cases which I saw none of the symptoms was severe early in the trouble, and no patient complained of pain or soreness in the neck. Nor was there any noticeable growth or enlargement in the cervical region. All of the patients were treated for some time for neuritis, neuralgia, rheumatism, etc. They passed through several hands and finally came back to their family physician undiagnosed. An X-ray examination was not made until the muscular wasting was alarmingly severe.

I will report one of the cases, my own, which gives a history similar to the others operated:

Mrs. G. W., age 30, well nourished, family history negative. Since leaving bed after confinement case, had felt a tingling picky sensation in the left arm and hand accompanied by more or less steady aching. Aspirin would relieve the pain temporarily. She noticed a progressive loss of strength in the hand and arm. She was unable to milk cows. She would drop a pail of water if she attempted to lift it. There was a slight wasting of the muscles of the left hand between the thumb and index finger. Having seen other cases of cervical ribs, I was suspicious of the case and had an X-ray examination, which showed the transverse process of the seventh cervical vertebra to be about two and three-fourths or three inches long. Operation was advised. Finally after about ten months she returned and decided to have an operation. At this time the arm was practically useless, and the muscles especially between the thumb and index finger, badly atrophied. There was no soreness or palpable enlargement in the cervical region. I removed a cervical rib about 2½ inches long, first stripping off the periosteum, as the tip of the rib seemed adherent to the subclavian artery. The lining of the periosteum was carbolized to prevent possible recurrence of the bony formation. This was six months ago. She is rapidly regaining the use of her arm. All pain has subsided.

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ARTERIAL HYPOTENSION*

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Arterial tension is a very important physiological factor in the maintenance of a balanced circulation. This balance may be disturbed by chronic hypertension and also by hypotension. Hypotension is found in a large group of individuals who may develop symptoms ranging from general weakness and fatigue, to medical or surgical shock, which occasionally proves fatal. The maintenance of a balanced circulation in either hypertension or hypotension depends on (1) the caliber of the blood vessels, (2) the pulse rate and (3) the force of the heart beat. All these three factors are controlled by the autonomic nervous system. Hypotension may be considered to exist if the systolic pressure is below 100 to 105, the diastolic ranging from 50 or less to 80, depending on the existing pathology. We may have a relative hypotension with systolic figures in the hypertensive range due to vasomotor paralysis, shock, or myocardial failure. A careful study of the arterial tension with accompanying circulatory findings as well as functional nervous symptoms is necessary to determine if a real or relative hypotension exists.

Definite types of hypotension can by the use of these measures be recognized and classified, and the therapy may be varied accordingly. The most disastrous type is that of shock either medical or surgical. If not promptly controlled sudden death may occur. This condition is precipitated by a vasomotor depression or paralysis, accompanied by a marked drop in blood pressure, regardless of whether the pressure was high or low, due to a sudden increase in the vascular bed or capillary dilation, and loss of force in heart beat despite increase in rate. The cause may be loss of blood due to traumatism or surgery, dehydration from various causes such as severe diabetes, toxic influences, the result of severe infections such as pneumonia, influenza, extensive burns, etc. Even an extreme degree of fear or depressive emotional disturbances have been reported as the cause of shock resulting in death. Fundamentally we have capillary paralysis, lack of fluid in the tissues, which lowers blood pressure to unusual levels such as 60 or less, and thus interferes with proper distribution of blood to vital organs, causing extreme prostration and death.

In this condition treatment must be applied promptly. A falling blood pressure, becoming a definite hypotension as before mentioned, is sufficient indication that vigorous therapy is called for, and an increasing blood pressure is the best evidence of relief of shock, whether medical or surgical. For this reason frequent blood pressure records should be made to determine the trend of the patient's condition. In very serious cases readings should be taken every few minutes until a definite upward trend of pressure is established. The most effective measure in severe cases is a blood transfusion of from 300 to 500 c.c. or more of blood, but valuable time may be lost in making proper preparations for this procedure. The best immediate procedure, when preparations for emergency transfusions have not been made, is the intravenous administration of 50 c.c. of 50 per cent glucose. Every physician and hospital should have ampules of this solution at hand for prompt use when necessary. This concentrated solution of glucose brings more fluid into the circulation, is a nutritive aid to the myocardium and thus will serve to increase blood pressure. It may be necessary to follow this procedure with saline infusion in liberal quantity, to which glucose may be added if necessary. Minor degrees of shock may not need these drastic measures, but may be overcome by the use of caffein in rather liberal and repeated doses. Adrenalin may be tried, with caution, but the above measures are more satisfactory. One must not forget the usual physiotherapy, such as application of heat to extremities, rubbing of body, application of pressure to abdomen, all of which serve to equalize the circulation.

The type of hypotension next in impor-

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tance is similar to the first only minor in degree. It occurs in patients who have recovered from severe acute illness such as influenza, broncho-pneumonia, typhoid fever or similar type of infection; also in cases in which some focal infection produces a toxin that depresses the vasomotor system and lowers arterial tension as well as depresses the general tone of the patient. Here the drop in tension may be relative, depending on the pressure existing prior to the etiological factors. The blood pressure is symptomatic of a general condition and is a rather definite measure of the real condition. The patient complains of lack of strength and endurance, dating from the time of his illness. In my experience many cases of this sort present themselves after epidemics of upper respiratory infections in the latter part of the winter season. The systolic pressure is often as low as 80 or 90 with a diastolic of 60 or less.

In this type of hypotension the removal of any focal infection, rest, and perhaps change of climate, to overcome any remnants of acute infection, are in order. In addition an appetizing, blood-building diet is essential, and attention to adequate intestinal elimination, preferably by means of diet and the milder laxative measures. Hydrotherapy, massage and heliotherapy, in conjunction with the above regime, usually result in satisfactory recovery.

The third type of hypotension may also be relative, and is due to failure of myocardial efficiency. This may be precipitated by an active degeneration of the heart muscle from various causes, and may first be noted after an acute illness as in the former group. The long strain of arterial hypertension, obesity with or without hypertension, long standing focal infections and, of course, chronic valvular disease, coronary sclerosis or thrombosis, are the chief etiological factors. The symptoms are those of myocardial failure in varying degree. The systolic pressure drops much more than the diastolic and we have a definite decrease in pulse pressure, which may often be as low as 20 as compared with a normal of 40 or 50. Here the therapy is that for myocardial failure such as rest, digitalis and mild forms of physiotherapy, especially massage, sun baths, etc.

The hypotension of Addison's disease must also be mentioned, as in these cases we see a marked persistent hypotension and marked asthenia. The disease is usually due to tuberculosis of the suprarenal glands and as it progresses the asthenia and hypotension increase together with other symptoms, especially gastro-intestinal in nature, until death results. It is interesting to note that some of the symptoms are in the nature of shock, and with the hypoadrenalemia, a hypoglycemia and low basal metabolism occurs. A characteristic pigmentation of the skin is noted in most cases and is progressive with the increasing hypoadrenalemia.

The treatment of this type is usually of little avail. The most potent remedy is suprarenal extract in large doses. In view of the hypoglycemia, the use of sugar between meals with the suprarenal extract seems logical.

The last form of hypotension that I wish to discuss occurs in a large group of individuals who have a pressure of about 100 or less systolic and a diastolic of 55 to 70. Most of them belong to the asthenic type of individual. Their capacity to do is limited. Among them may be many that have no complaint as long as the stress and strain of modern civilization is limited to their constitutional capacity to carry on. They recognize their inability to tolerate the drive in work and play that more robust individuals tackle with apparent impunity. As long as they live within their limitations all goes fairly well, but sooner or later they either become ambitious to keep up with someone of the robust type or they are forced to venture beyond their physical capacity in carrying on their occupation with its responsibilities and worries. Others, by accident or otherwise, become subject to extreme anxiety, worry or fear precipitated by illness in the family, domestic or financial troubles. These asthenic individuals do not tolerate these conditions, which force them to go beyond their limits, and as a result the strain affects the autonomic nervous system with marked depreciation in health. The sympathetic side is the driving force in all our activities, emotional, physical or otherwise. Eventually fatigue of the sympathetic nervous system occurs which finally results in an atonic condition and then a hyper-irritability or hypertonus of the parasympathetic or vagus side occurs. In this condition called vagotonia, we have a striking group of symptoms including hypotension. Clinically, these cases come to us complaining of an overwhelming fatigue

that occurs with very slight effort, indicating a very limited endurance for the ordinary activities or duties of life. They have often been told that their blood pressure is low and is the chief cause of their trouble, or they have been advised that they have neurasthenia and that they must either rest or exercise to recuperate. The hypotension is the result of sympathetic fatigue and a resulting hypoadrenalemia. The fatigue or lack of endurance can be explained by a hypoglycemia due to the over-stimulation by the parasympathetics or vagus resulting in increased secretion of the pancreas including insulin. Some of these cases, after unusual effort or strain, will present symptoms bordering on mild shock, reminding us of the symptoms that occurred from overdose of insulin in the diabetic before the insulin unit and proper dosage had been developed. In most cases presenting this unusual fatigue, the fasting blood sugar is below 90, and if we subject them to the glucose tolerance test the blood sugar curve will practically always be lower than normal and usually in the second or third hour a definite hypoglycemia of 70 and occasionally as low as 45 or 50 mgm. per 100 c.c. of blood is found. During the course of the sugar tolerance test some will have a typical hypoglycemic or hyperinsulin reaction. At such times the arterial tension reaches a level often as low as 80 systolic. Another interesting finding is that these patients all have a definite hypometabolism, often as low as —15 or —20. This is probably best explained by the fatigue of the sympathetic side of the autonomic nervous system, causing a deficient activity of the thyroid, as over-activity of the thyroid is always associated with an over-activity of the sympathetic. Nearly all these cases have a spastic colon due to the hyper-irritability of the vagus, and with it a definite constipation which tends to aggravate the fatigue and other symptoms of a depressed vasomotor system.

This group of symptoms may develop in the sthenic type of individual as a result of some very unusual physical and mental strain. Such a case recently under observation presented all the foregoing findings, with a blood pressure of 80 to 100 systolic, a fasting blood sugar of 80 mgm. and in the glucose tolerance test a blood sugar curve dropping to 62 at about the third hour. Fatigue was associated with dizziness and palpitation of the heart, etc. The patient had no pronounced symptoms of this trouble until three years ago when he had the following experience. While fishing at the seashore his boat capsized in an outgoing tide. He was a fair swimmer but there was no chance of getting any help within a mile, and the physical effort of keeping above water, and the calling for help, and the terrible fear of drowning, resulted in a state of collapse when rescued. Since then the symptoms of extreme fatigue had recurred practically every day, and always if he took even a moderate amount of exercise or if worried more than usual by business, or other affairs.

The therapeutic management of this type of hypotension is not as simple as in the other types mentioned. A great deal of patience is required by patient and physician because it takes time to correct the imbalance that exists in the autonomic nervous system.

In the first place these patients must adopt a program, regulating their activities so as to remain always within their limitations and thus avoid the unusual fatigue to which they are subject. Many so-called neurasthenics from this group have been told to exercise to build up their health, with disastrous results. Rest in bed may be necessary in some cases. If the patient just referred to had gone to bed for a week or more after his fishing experience, the nervous imbalance might have been prevented.

Because of the tendency to hypoglycemia and associated fatigue, frequent meals are indicated. The total intake of food may not need to be increased unless the patient is underweight, but by taking food containing a small amount of easily assimilated carbohydrate between meals and at bedtime, the hypoglycemia may be avoided. Some of these cases have already learned that the taking of food relieves them promptly of the sense of fatigue. I usually recommend orange juice or some other fruit in season, a few pieces of candy, or perhaps some buttermilk. Because of the hypoadrenalemia, suprarenal extract is given, often in large doses—in severe cases as much as 30 or more grains a day. This program must be carried on over a period of months and sometimes years in the severe cases in order to overcome this symptom-complex. This is especially true in the cases belonging to the class usually called constitutionally deficient.

In the cases occurring in the fairly robust

individual as a result of overwork or some acute infection such as influenza, the program here outlined gives rather prompt results.

By a careful study of our neurasthenics, I believe we shall find many belonging to this class who have a definite pathology suggested by the arterial hypotension, hypoglycemia, hypometabolism, and these findings should be a definite aid in instituting proper therapy. It is interesting to note that the above findings are recognized in Addison's disease, and the therapy suggested is very similar.

ANEMIA IN CHRONIC NEPHRITIS*

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Anemia is commonly observed in chronic nephritis. Clinical evidence points toward decreased function of the bone narrow rather than increased blood destruction, the anemia resembling a simple chronic type with low color index, a low percentage of nucleated red blood cells and a loss of regeneration of the bone marrow with little evidence of reticulated cells. The entire reaction of the blood in nephritis suggests a toxic effect on the blood-cell-forming apparatus.[1] Some cases present the features of an aplastic anemia with complete absence of immature and regenerative types of cells and an absolute lack of response to treatment. While hematuria may and does occur, it seems to bear no relationship to the anemia. In patients with hemorrhagic nephritis anemia is usually absent, or present in only slight degree. Severe anemia is frequently found in cases where no hematuria has been observed.

The blood platelets as a rule show no change except in association with severe anemia. Brown and Roth[2] found the blood platelets averaging 152,000 in eight cases of chronic nephritis with severe anemia. They conclude that this condition may have some bearing on the hemorrhagic tendency in some of the more severe cases.

In chronic diffuse nephritis we have progressively diminishing renal function and marked cardiovascular disease, commencing as a rule in an individual less than forty years of age. In the end stage where probably three quarters or more of the tubules and glomeruli have been destroyed, these cases show all the signs of renal insufficiency. In spite of a restricted protein intake, the blood nitrogen rises to high levels, and an anemia which early in the disease is less severe than one might expect from the appearance of the patient, gradually becomes more pronounced, and adds to his extreme disability. Particularly in cases of acute nephritis, and occasionally in chronic nephritis with edema, we are surprised to find the blood count and hemoglobin normal, when the appearance of the patient suggests a definite anemia. The pallor is in these cases associated with edema, and probably secondary to vasoconstriction. In severe chronic nephritis without edema, the skin and mucous membranes have a yellowish tinge, not unlike some cases of pernicious anemia. In these cases a close parallelism was found to exist between the anemia and the blood nitrogen. Brown[3] found that hemoglobin readings of 60 per cent or less have approximately the same serious prognosis as have blood creatinin values over 5 mgm. per 100 c.c. When the patient is in the compensated stages of the disease there may be marked anemia with a normal blood creatinin. With the onset of renal insufficiency, however, the anemia is usually severe and closely parallels the blood nitrogen. Repeated blood examinations may then be used as a valuable index of renal function.

The progressive nature of chronic nephritis, together with the close relationship between the blood nitrogen constituents and the secondary anemia, is well exemplified by the following case:

Case 1.—A young woman, 21 years of age, came

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for examination on June 25, 1927, complaining only of slight fatigue. The physical examination was negative, except for a slight hypertension—140/95. The specific gravity of the urine was low, and there was some loss of power of concentration. A trace to a heavy trace of albumin with negative microscopical findings was present at several examinations. Blood chemistry: non-protein nitrogen 43.3; urea 25.8; creatinin 1.5 mgm. per 100 c.c. Blood: Red cells 4,250,000; white cells 8,100; hemoglobin (Dare) 80 per cent. Three months later the urine showed the same restricted variation in specific gravity; the albumin increased to 3 per cent with occasional hyaline casts. Non-protein nitrogen 56.3; urea 31.7; creatinin 2.8 mgm. per 100 c.c. Blood: Red cells 3,780,000; white cells 8,100; hemoglobin (Dare) 77 per cent. Four months later the blood creatinin had increased to 3.2 mgm. per 100 c.c. with a definite increase in the secondary anemia: Red cells 3,040,000; white cells 8,100; hemoglobin (Dare) 70 per eent. Her only complaint was fatigue. There was no evidence of cardiac hypertrophy, no changes in the retinal arteries, and the hypertension remained about the same.

June, 1930, three years after her initial examination, she returned with the findings of advanced chronic nephritis: cardiac hypertrophy, hypertension —blood pressure 180/120, extensive arteriosclerosis, and many flame-shaped retinal hemorrhages. The specific gravity of the urine was fixed at 1.009; there was a large amount of albumin with hyaline and granular casts. Blood chemistry: Non-protein nitrogen 110; urea 66.2; creatinin 5.2 mgm. per 100 c.c. Corresponding to the increase in the blood nitrogen constituents, we have a marked increase in the existing anemia: Red cells 1,620,000; white cells 7,200; hemoglobin 49 per cent.

The anemia of chronic nephritis occasionally precedes the other symptoms, and is often of definite diagnostic value in calling attention to possible insufficiency of the kidneys. Scarlett[4] has reported four cases of severe chronic nephritis with uremia in which hypertension, cardiac hypertrophy and retinal changes did not occur, and in which a simple anemia was the single cardinal finding. We have recently studied a case of chronic nephritis with renal insufficiency and a severe anemia with a gradual return to a compensated stage of the disease and a corresponding improvement in the blood nitrogen and the anemia.

Case 2.—The patient is a married man, 39 years of age, who reported to the clinic November 24, 1929, complaining of constant localized tenderness in the epigastrium with moderately severe dull pain in the same area not definitely related to food, and of two years' duration. He is never awakened at night with pain but does have frequent heartburn relieved temporarily by soda. On one occasion a roentgen diagnosis of duodenal ulcer with pylorospasm was made, and the patient was placed on an ulcer regime without relief from symptoms. The family history was negative except that his father died of uremia at the age of forty-five. Previous history of ailments was negative.

The appearance of the patient suggested a moderately severe anemia which was verified by the following blood findings: Red cells 2,100,000; white cells 8,700; hemoglobin (Dare) 61 per cent; color index 1.2. The urine had a low specific gravity, albumin double plus, occasional hyaline casts, and a few pus cells. Microscopic examination for blood cells was negative. Wassermann test was negative. Blood chemistry: Non-protein nitrogen 61.7; urea 39.5; creatinin 3.8 mgm. per 100 c.c. A concentration dilution test showed a fixation of specific gravity with a loss of power of the kidney to concentrate, the highest specific gravity reading 1.009. Following the concentration test the patient developed anuria, headache, blurred vision and a pain in the upper abdomen similar to the pain of which he complained but more severe and accompanied by vomiting. The phenolsulphonephthalein test with catheterized samples of urine at the end of one and two hours showed only a trace of the dye in each sample. With repeated daily intravenous administration of glucose (20 per cent) and Ringer's solution he made a gradual recovery and two weeks later the phthalein elimination had increased to 10 per cent in two hours. On physical examination there was no enlargement of the heart, and the blood pressure was only slightly increased—145/90. The fundus examination showed areas of exudate with a fairly high degree of retinal arteriosclerosis.

Since the abdominal pain could not be definitely explained, he was subjected to a thorough X-ray study of the gastrointestinal tract with negative findings except for severe pylorospasm. There was a moderate hyperchlorhydria. A careful search failed to reveal any possible source of bleeding to account for the severe anemia. During the following month the patient was given a basic diet with plenty of orange juice, kept at complete rest, and received no medication. He gradually improved in strength, and the abdominal soreness practically disappeared. There was a slight improvement in the blood chemistry: Non-protein nitrogen 45.5; urea 26.5; creatinin 2.7 mgm. per 100 c.c. The anemia also improved somewhat: Red cells 2,800,000; white cells 8,000; hemoglobin (Dare) 65 per cent.

Three months later the patient returned for further observation complaining of only occasional epigastric pain. The specific gravity of the urine remained fixed at a low level, albumin reduced to a trace, with occasional hyaline casts. The renal efficiency increased to 26 per cent of the dye returning in two hours. Blood chemistry: Non-protein nitrogen 39.8; urea 19; creatinin 1.6 mgm. per 100 c.c. With this improvement in the general condition there was a corresponding improvement in the blood count: Red cells 3,490,000; white cells 8,400; hemoglobin (Dare) 80 per cent.

Ten months after the original examination the urine showed the same findings. The blood chemistry was normal and the anemia had entirely disappeared: Red cells 4,630,000; white cells 8,400; hemoglobin (Dare) 87 per cent. The renal efficiency test showed an elimination of 40 per cent of the dye in two hours. His general condition had improved and the gastrointestinal symptoms had entirely disappeared.

Acute glomerulonephritis complicated by purpuric disease may pass into the chronic stage and exhibit severe anemia. Osler mentions a patient who developed acute nephritis during an attack of visceral purpura at the age of twelve years, which passed into the chronic form with hypertension and hypertensive retinitis. The author has recently studied such a case and presents the following case report:

Case 3.—A young male, fifteen years of age, reported to the clinic April 27, 1930, complaining of

shortness of breath, generalized edema and anemia. The family history was negative except that the father had chronic Bright's disease. Following a period of fatigue extending over a few weeks he had a short fainting spell and was sent home from school. A few hours later he complained of severe generalized colicky abdominal pain with a predilection for the right side of the abdomen. A diagnosis of acute appendicitis was made and immediate surgery advised. On account of the finding of a purpuric rash on the legs as high as the knees and also around the elbow joints, operation was postponed. Twenty-four hours later the abdominal pain had disappeared, while there was visible and microscopic evidence of blood in the urine with a high degree of albuminuria and casts of all descriptions. The purpuric rash gradually disappeared but the urinary sediment remained unchanged and gradually, during the following month, there appeared some generalized edema, particularly of the face and legs, and considerable pallor. Five months after the initial fainting spell he presented himself for examination.

Aside from the edema and evident anemia, physical examination showed a marked cardiac hypertrophy without evidence of valve lesions, a moderate tachycardia and hypertension—180/110. The fundus examination showed a general edema of the whole eye grounds with a small amount of exudate about each macula and a few small flame-shaped hemorrhages near the nerve of the right eye. The urine had a slightly restricted range of variation in the specific gravity, 30 per cent albumin, several hyaline and granular casts, many pus and blood cells per high power field. Blood chemistry: Non-protein nitrogen 37.8; uric acid 3.7; total protein 4.6; serum albumin 2.3; serum globulin 2.3; cholesterol 215 mgm. per 100 c.c. Blood: Red cells 2,240,000; white cells 9,600; hemoglobin 50 per cent (Dare). Blood platelets 152,000. In spite of all therapeutic measures, including a high protein diet, thyroid extract, purine base diuretics, etc., the general edema, hypertension and anemia remained unchanged. We feel this case illustrates purpura complicated by acute nephritis rapidly progressing through the subacute and subchronic stages into true chronic nephritis.

The distinction between purpura with acute nephritis and acute nephritis with purpura is mainly of academic interest. Blood transfusion as treatment for the purpura might be considered, but according to Osman's[5] experiences this operation may be attended by such grave risks, where there is a pre-existing renal lesion, that postponement should be advised in all but extremely urgent cases.

Pratt[6] found that the acute nephritis of Henoch's purpura occurs in three forms: (1) Acute course, dropsy and death from uremia in three months. (2) The blood and albumin disappear from the urine with complete recovery (most of the cases belong to this group). (3) The nephritis becomes chronic. According to Pratt, acute nephritis is especially liable to occur in those cases of purpura in which abdominal pain is pronounced. The cause of the gastrointestinal symptoms is unknown. Osler[7] believed the pain to be associated with a localized urticarial swelling of the gastrointestinal wall.

Usually there is no anemia in cases of essential hypertension without gross arteriosclerotic changes and without evidence of renal or cardiac failure. Fishberg[8] found that with the development of severe arteriosclerosis, particularly of the coronary arteries, secondary anemia often appears and may be marked. Cardiac insufficiency not associated with valvular disease, when unusually protracted, is frequently accompanied by an anemia which may be severe and occasionally resembles the blood picture of pernicious anemia with a high color index.

Case 4.—A woman, 55 years of age, came under our observation, May 11, 1929, complaining of fatigue of two years' duration, extreme weakness, dyspnea and edema of the legs. During the past two years she had been treated for cardiac decompensation on two occasions. Physical examination showed a rather slender frame with considerable pallor of the skin and mucous membranes. There was marked cardiac dilatation, a prolonged soft systolic murmur at the apex transmitted towards the axilla. There was a small amount of free fluid in the abdomen and considerable edema of the legs. The urine had a normal range of specific gravity, a slight trace of albumin and negative microscopical findings. There was no accumulation of nitrogen materials in the blood. The blood count was as follows: Red cells 3,270,000; white cells 7,200; hemoglobin 68 per cent (Dare).

In spite of complete rest, thorough digitalization and the various diuretics, her condition grew worse. The edema increased and the anemia became more pronounced. The final blood reading three months after her admission and a week before her death was: Red cells 2,200,000; white cells 10,300; hemoglobin 66 per cent. All of the blood counts had a positive color index.

Autopsy examination showed cardiac dilatation and hypertrophy with no evidence of arteriosclerosis. The coronary arteries were normal. There was fatty degenerative infiltration of the heart with chronic fibrous myocarditis. There was chronic passive congestion of all the organs. Sections of bone marrow showed no pathological process.

In certain cases the anemia of chronic nephritis is increased by a too rigid low protein diet. While most people eat too liberally of protein foods, nothing is to be gained by subjecting those cases of chronic nephritis who can dispose of the waste products of protein metabolism to a very rigid low protein diet. It has been recently shown that not only profound metabolic changes but also a mild anemia occur in normal men simply on a reduced diet.[9] Iron starvation may lead to defective blood formation, and so anemia may develop from taking a strict milk diet over too long a period, owing to the small quantity of iron in the milk. Since the kidney efficiency may vary from time to

time it is important to estimate the blood urea, and repeat the various function tests, making dietetic alterations as necessary to keep within the working capacity of the kidney.

In conclusion, with regard to the treatment of the anemia of chronic nephritis, drugs have proved of no value. The general condition is treated by rest, restriction of fluids and salt, to meet the individual case, and a moderately low protein diet depending on the blood chemistry findings, the remainder of the diet being made up of a generous mixture of fats and carbohydrates with an adequate amount of roughage.

SUMMARY

1. Severe anemia of the secondary type is frequently found in chronic nephritis.

2. Repeated determinations of the red blood cells and hemoglobin may be used as a valuable index of renal function in cases of chronic nephritis with severe anemia.

3. The anemia of chronic nephritis occasionally precedes the other symptoms and may prove of definite diagnostic value.

4. Prolonged cardiac insufficiency not associated with valvular disease is frequently complicated by a severe anemia which may resemble the blood picture of pernicious anemia.

5. The existing anemia in chronic nephritis may be aggravated by too rigid dietetic measures.

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MEDICINE IN RUSSIA—AS A LAYMAN SEES IT

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No great industrial development is possible nor the progress of a country assured, without care and thought given to the health of its people, its workers and their families. I was desirous of securing at least a cursory insight of the hospitals and medical situation in Russia: first, because this phase of life has always interested me; second, because my good friend Dr. Andrew P. Biddle had requested me to endeavor to obtain information in reference to certain conditions and their application to the medical profession in Russia at present. For example, the doctor today in Russia is paid a salary by the State and in return must give a certain number of hours daily to the hospital, clinical work and professional calls in the interest of workers needing his service, to whom such services are free. How does the system work out, was what my doctor friend was interested to learn.

It was stated to me that Russia had very limited hospital facilities prior to the revolution, and very little medical attention was available for the proletariat; also that this service has been greatly increased since 1921 and must be constantly further extended.

The best hospital facilities are located in the three principal centers of population—Leningrad, Moscow, Kharkov. As a whole they could not be considered the equal of our good hospitals in America.

In Kharkov, being the first of the three great centers of population in Russia that I visited, I called at a large polyclinic hospital which I was informed was rated as the third in all Russia as regards services rendered. I took an interpreter with me, but

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made no previous engagement, simply calling as a casual visitor. The interpreter went to the office and stated for me the object of my visit. An intelligent appearing nurse was assigned, who took me through the many departments, each of which was in charge of a specialist. Electrical equipment and light-ray apparatus seems to be given a great deal of space and many patients were being treated therewith—infections, rheumatic conditions, nervous disorders, sinus trouble and skin diseases. There was also an extensive department devoted solely to mothers and their babies, another to contagious diseases and one especially for patients suffering from venereal disorders. Of the latter I was later informed that the portion affected by syphilis, at least so far as it applied to the Kharkov district, was approximately 3 per cent.

I was finally conducted to the office of the Chief of Staff, who acts as consultant and has 32 assistant physicians, to each of whom is assigned an attending nurse. This staff applies only to the main polyclinic above referred to, there also being several branches in Kharkov with separate staffs. I asked the Chief of Staff many questions during my stay in his office. He willingly gave of his time and courteously replied to my queries; the interview, of course, was through an interpreter. The following are some of the facts brought out:

The doctors devote about eight hours daily to their duties in the hospitals and clinics. They are all salaried men; the Chief of Staff informed me that he received 400 roubles per month. He also said that he devoted about an equal number of hours to private practice, his office being in his apartment; that his fees were from 3 to 10 roubles, according to the income of his patient. Any one ailing usually goes to the polyclinic for treatment or if a 'phone call is made requiring a visit, if the message is received before noon it is reasonable to assume that a doctor will call during that day, but if the message is not received until afternoon it is doubtful if medical aid will be rendered until the following morning. Under such circumstances, if the patient desired immediate attention it could be had from a physician during his private practice. A form of Red Cross service is also available and an emergency case would be taken care of by dispatching an ambulance from the nearest medical station and bringing the patient to the hospital. It was stated that all diseases are classified into different sections and a specialist in charge of each.

A woman worker who becomes pregnant reports at the polyclinic so that her physical condition may be determined from time to time and proper care administered. She is allowed time off for two months prenatal and two additional months following the birth of her child, and with full allowance of her wages. The hospital also supplies her with 50 roubles wherewith to buy clothing, napkins, bedding, etc., for the babe. The child when born is immediately issued a salary card and paid 9.30 roubles per month until nine months old. Thereafter government kindergartens will care for the child while the mother is engaged at her occupation. The medical services to both mother and child are free.

Workers, both men and women, are not permitted to work if infected by venereal disorders. They must be treated and the disease controlled. A vigorous campaign is being waged everywhere against syphilis. In workers' clubs, in schools, in sanatoriums or convalescent homes, and elsewhere, charts and wax figures vividly portraying the ravages of this disease on the reproductive organs and other parts of the body, are conspicuously exhibited.

I finally asked the doctor at Kharkov if he was perfectly satisfied with conditions as they applied to his profession. He replied that his task was the betterment of mankind in Russia and he was content in fulfilling his duty.

A surgeon connected with one of the principal hospitals in Leningrad, of Hebrew extraction, frankly stated that his social condition as a Jew had materially improved in Russia He received 300 roubles per month from the State; he did not practice privately.

In Yalta, Crimea, beautifully situated on the shores of the Black Sea and but a short distance from Sevastopole, I found a very interesting situation. Yalta was the favorite resort of the Imperial court and here was located "Livadia," the former palace of Czar Nicholas II. The hillsides overlooking the sea are dotted with beautiful villas, the former homes of aristocracy. These are now practically all used as sanatoriums and convalescent homes for Russian workers. Sixty-five villas, mansions and hotels are now used for this purpose. They accommodate about 7,000 patients. Livadia is a beautiful

palace overlooking the sea and sheltered from the winds of the north by nearby protecting mountains rising 3,000 to 4,000 feet. The gardens are filled with beautiful trees, shrubbery, roses and flowers, all luxuriant in their growth in this semi-tropical climate. I visited the sanatorium Livadia, at one time the czar's palatial home. I met the doctor in charge, a delightful gentleman; nine years a student in Paris, where he attended the Sorbonne; he also pursued his studies in Berlin as well as in his own country.

The palace and its adjoining buildings accommodate 1,700 patients, and 1,200 were present at the time of my visit, almost entirely Russian peasants. The staff—doctors, nurses and service help—numbered 500. It was just dinner time when I arrived, 2 to 3. The former glorious banquet hall, the adjoining imperial private dining rooms, were crowded with long narrow tables covered with oilcloths and in sharp contrast to the character of the rooms.

The crowd of patients filed in, all looking quite well and strong, and, judging by what I saw them eat, their appetites were equal to that of wood choppers. All were first served soup and a large hunk of bread. You should hear a thousand Russian peasants eating soup, their faces close to the bowl. Next large plates arrived with most generous portions of boiled rice and chicken, a feast that I am sure was rarely their lot when at home. When I remarked to the doctor that each plate contained enough for a family of four, he smiled and said, "Still they complain that they are not fed enough." It was amusing to see them eat; practically all the men sat with their caps on and all were far more adept in handling chicken with their fingers than with knives and forks. When they had finished their meal the table was strewn with the bare bones of chicken.

I later partook of this same wholesome fare, with the doctor, who invited me to dine with him. We ate in one of the smaller dining rooms, the lower portions of the walls panelled in mahogany, the upper decorated in red silk damask. My mind was constantly painting pictures of those earlier scenes that transpired in these same rooms; nobility dining in state; choice linen and silver, exquisite glassware and china, refined service; now what an extreme contrast,—oilcloth-covered tables, the food heaped on platters, no carpets nor rugs, only the bare floors from which the varnish and wax finish had been worn by the coarse boots of the peasants, exposing the grain in the wood of what was once a lovely parquet flooring. The walls of the room were bare, no draperies nor pictures. Some of the arched openings had plain rough board partitions installed with small doorways cut through. I wondered what marble staircases, panelled wood walls, frescoed ceilings, parquet floors, plate glass windows, meant to these peasants. Heavy boots, oilcloth-table covers, coarse table manners, cots to sleep on; what a contrast!

In a room on the second floor were colored pictures and physiological charts illustrating the ravages of syphilis, that these peasants might have clearly brought to their attention the terrors of this disease. Inasmuch as this sanatorium is given over almost entirely to peasants, in another large room were exhibits of cereals and charts illustrating the necessity of intelligent farming made possible by scientific research. Like illustrations were displayed on the subjects of animal husbandry and orcharding.

I later stood on the balcony adjoining the czar's former private sleeping apartments. It commanded a most charming view. Looking through the unobstructed windows I saw rows of cots on which were sleeping patients, for all are required to rest immediately after the noonday meal. What contrasting changes Russia has undergone! How amazing this New Russia!

I visited another sanatorium at Yalta. High up on the mountain side among the pine trees of an extensive forest, have been built two large stone buildings, a modern tuberculosis hospital costing 2,000,000 roubles. Sixty or seventy attendants were caring for approximately 300 patients, the full capacity being 400. I respectfully declined to go through the ward of the most serious cases, but did walk along the lengthy verandas filled with cots and resting patients. Just off the veranda were adjoining bed rooms, each accommodating three patients. In this sanatorium likewise considerable electrical apparatus was installed. A series of small cottages was also being constructed among the pines to care for additional sufferers. Altogether the plant was very modern and well operated.

In addition to the well appointed hospitals

in Leningrad and Moscow there are a surprising number of the finest villas in these cities, which were formerly the homes of Russian nobility, and which are now used as workers' convalescent homes, rest-houses or clubs. The rich interior finish and decorations are mute reminders of the former days of aristocracy; marble staircases and statuary, carved woodwork and silk wall coverings, all in striking contrast to the general appearance and dress of the present occupants of these mansions.

I visited a school of semi-medical character in Nizhni-Novgorod. In a department devoted to gynecology there was a group of students, entirely girls of ages from 14 to 16 years. They were taking a two year course, what appeared to me to be more on the order of the training given our nurses. A medical man was their instructor. There were specimens in glass jars illustrating maternity from conception to birth. There was even a model and a doll baby for illustrating proper birth delivery. These girls, after finishing the course, are required to attend and perform, in the presence of an experienced doctor, twenty-four successful deliveries of babies, after which they are given a certificate and consigned to their field of duty.

THE DOCTOR'S SOCIAL POSITION

The relative social position of the doctor remains about the same, that is his distance from the top and bottom of the social scale; the aristocrats and capitalists, formerly above him, are now below him, while the factory workers, formerly below him, have now in some respects been exalted above him. However, in so far as he is a scientific worker for State institutions, he is as highly regarded as any one in the land. To the extent that he holds back from participation in State activities he is frowned upon. His income is distinctly less than in former times; so is that of every one in Russia except the workers.

Most members of the profession are on government pay. Private practice is not illegal but it is looked upon with disfavor—sometimes favorable, sometimes unfavorable, according to the district and the variance of State programs. Doctors of former fame still have many private patients and enjoy an income larger than that paid to the government heads of the State—such as Stahlin or Kalinin. On the other hand, many of the younger doctors, though specialists of good standing, have scruples against private practice. Some give medical aid to acquaintances or needy persons, refusing pay, but accepting return courtesies of a professional character. The whole ethics on this point is in a state of flux. The same is true regarding the sympathy of the doctors with the government; it varies greatly. Many are very keen on the wide extension of sanatoria, some are covertly hostile; probably most are rather anti-political.

In the past few years tremendous efforts have been made to increase the number of doctors to meet the incredibly great demands of an awakening rural district. Courses have been shortened and undoubtedly quality has suffered. However, if you ask medical men if the short medical training that is now being given in Russia does not lower the standard of the profession, they will frankly admit that it does, but also add that doctors with two years training are better than no doctors at all. The Russia of the past was sadly lacking in sufficient doctors and medical facilities; to raise these conditions to a proper standard is a tremendous task.

On the other hand rural districts have better doctors and medical facilities than ever before and many more of them, since formerly they were very badly off with only midwives and felchers. Moreover, the rural system of attaching all doctors to a central hospital point, under the management of two or three trained physicians of long experience, eliminates some of the faults of this shortened training. The work of higher institutions of medical research, it is stated, has been probably improved and is, I understand, of high quality.

Hospitals are all government owned, either by the Department of Health or Social Insurance. Private hospitals would be illegal or in process of becoming so. There are many more hospitals than formerly, but they are still far from sufficient.

Difference is made as to the standing of patients, that is, as to wards or private rooms. The highest State officials usually get a private room in the Kremlin hospital, if the disease requires it. However, in sanatoriums the highest officials are often several in a room. Nursing service such as we know it in America is unknown and has always been so, I am told. A nurse, as one in Poland once said, "is to watch the pa-

tients, not to wash them." Some patients are dissatisfied; others think it is the most agreeable thing they ever experienced to go to a sanatorium or hospital. The latter are those of the lower classes who got little or no attention in former days. Medical service in the existing hospitals I believe is ample, with many attending specialists, but many more hospitals are still required.

I would say that a medical career in Russia offered no extraneous attractions. It offers the attractions of a reputation among one's peers, and a chance for a continuous advance in a field which especially interests some people. In this it resembles most other professions and callings in the Soviet Union today, being neither better nor worse paid than others. One additional fact might be mentioned. No doctor is any longer required to expend large sums of money for his training, thus acquiring in after years "an interest on his investment," so to speak. He is supported by the State while studying and is expected for this to give a certain term of service wherever he is sent,—usually in rural districts.

At a recent conference held in Moscow by scientists of Soviet Russia, among others, the following resolution was passed: (A clipping from a newspaper) "We shall actively aid in this unprecedented constructive activity. All our forces, all our knowledge, and all our ability, we shall devote to the creative work undertaken by the millions of toilers who are re-building our country upon socialist foundations. Physics, chemistry, biology, all the branches of science and technic, will go hand in hand with the struggle for the daring slogan launched by the proletariat and by its great party: to overtake and outstrip the capitalist countries in a decade."

In my opinion it is the intelligentsia, the men of science and medicine, spurred on by a desire to help mankind, that are making the great sacrifice in Russia.

I have often remarked that there should be a special reward in The Great Beyond for conscientious doctors,—ministers of mercy to suffering humanity, experiencing an avenue of approach to the innermost life and soul of man into which neither priest nor clergy are often permitted to enter.

FAMOUS MEN IN MEDICAL HISTORY

WILLIAM SHIPPEN, JUNIOR, AND THE EARLY DEVELOPMENT OF AMERICAN OBSTETRICS.*

CHARLES M. BURGESS, M.D.

William Shippen was born in Philadelphia in 1736. He was the son of a Dr. William Shippen, a distinguished physician of Philadelphia, and a grandson of Edward Shippen, an associate of William Penn in the founding of Pennsylvania. William Shippen, senior, a man of wide learning, was one of the founders and long a trustee of the College of New Jersey (now Princeton), a trustee in the College of Philadelphia (the University of Pennsylvania), vice president of the Philosophical Society, and the first physician appointed to the Pennsylvania Hospital.

William Shippen, junior, spent the early years of his life in Philadelphia. His father then sent him to Nottingham Academy—where, under the instruction of the Reverend Mr. Finlay, he became thoroughly acquainted with the classics. The fruit of this early training became evident later when as valedictorian of his class (1757) in the College of New Jersey he so impressed the famous preacher Whitefield with the eloquence of his Latin oration that he was urged by this worthy to enter the ministry—Whitefield declaring that he had never heard better speaking. However, young Shippen was destined to serve humanity in a different way. He returned to Philadelphia, and for three years studied medicine as an apprentice with his father. At the conclusion of this period he went to London. Here, he lived in the family of the famous John

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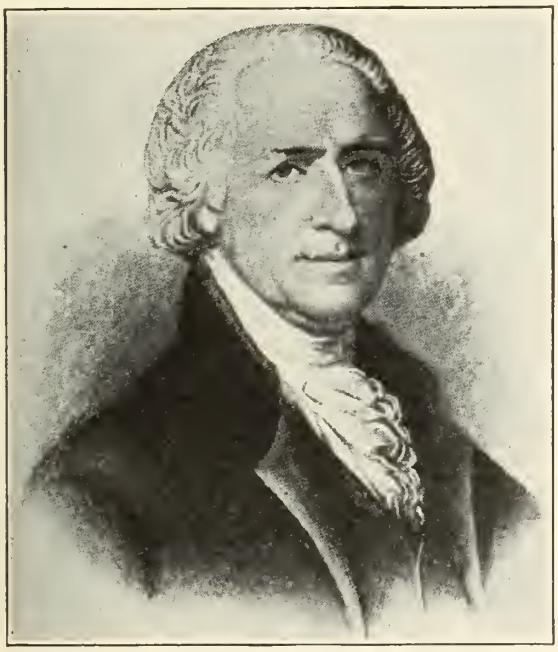
Hunter and studied anatomy and midwifery under the no less renowned William Hunter. Also, under Dr. McKenzie he studied obstetrics; under Dr. Pringle he became much interested in pathological anatomy; and elicited great interest from the celebrated Dr. Fothergill. In 1761 at Edinburgh he was granted his medical degree. He then spent some time in France as professional attendant upon a wealthy invalid. At this particular time France and England were at war, and it is interesting to note that it was only through the help of George II that he secured permission to travel in France.



WILLIAM SHIPPEN, JR.

While in that country he became acquainted with the celebrated Senac and other noted French physicians.

About this period he married his countrywoman, Miss Lee of Virginia, daughter of Thomas Lee, a gentleman of standing in the Colony, and President of the Governor's Council.

Young Shippen returned to Philadelphia in 1762—there to take up practice and teaching. Just previous to his return, Dr. Fothergill presented to the Pennsylvania Hospital a set of handsome anatomical paintings, and drawings, and models. This material, he expected Shippen to explain and to use in teaching. Also in a letter written to the hospital authorities, we find reference to the establishment of the first medical school in America, for in this letter he writes of the probability of Shippen establishing a medical school, and of Dr. John Morgan as an able young assistant in the project. Outside of any University connection, Shippen began to teach anatomy in the autumn of 1762, just as soon as weather would permit. In his very opening lecture he proposed the establishment of a medical school. This introductory lecture was delivered in one of the large apartments of the State House, and many of the gentlemen of Philadelphia heard it with pleasure. Later, his father constructed a lecture room for him in the rear of his home. The number of students who attended his course was only twelve; such was the origin of our first medical school. Benjamin Rush was one of the twelve pupils. After his first lecture, Shippen made the following announcement in the *Pennsylvania Gazette*:

> "Dr. Shippen, anatomical lecturer, will begin tomorrow evening at six o'clock at his father's house in 4th street. Tickets for the course to be had of the Doctor at 5 pistoles each, and any gentlemen who incline to see the subject prepared for the lecture, and learn the art of dissecting, injecting, etc. are to pay 5 pistoles more."

Then for three years he lectured on anatomy and midwifery. In 1768 he was unanimously elected a Fellow of the Royal College of Physicians at Edinburgh. In 1778-9 and again from 1791 till 1802 he was one of the physicians of Pennsylvania hospital and for more than 40 years he was a member of the American Philosophical Society.

There is little doubt that some rivalry existed between Morgan and Shippen for the honor of being founder of the first medical school in this country and thus the father of American Medicine. Upon Morgan's election as professor of Theory and Practice of Physic, Shippen wrote to the trustees reminding them that the establishment of a medical school had been his dearest wish for seven years and that he had proposed the matter in 1762. He asked for the appointment as professor of anatomy and surgery. This was granted and for 26 years, save for the winter of 1776-7, his lectures were continued, hundreds of students coming under his instruction during that period and many of them completing their studies abroad. He was universally regarded as without a peer as a teacher. And here let

us pause, and remind ourselves that any success in teaching anatomy and obstetrics in those days required an outstandingly strong personality, for public opinion had not yet approved of dissections or of men midwives! Shippen met with violent opposition on the part of the populace, who stoned him and smashed on several occasions the windows of the house in which the dissections were performed. To allay this prejudice he announced in letters to the newspapers that the bodies he used were those of persons who had committed suicide or been legally executed, except "now and then one from Potter's field." In connection with his midwifery lectures he also established a small lying-in hospital "under the care of a sober, honest matron, well acquainted with lying-in women."

Wistar, one of his old students, in explaining the success of Dr. Shippen in teaching anatomy, says that we may take into view another faculty which he exerted with great effect. "He went through the substance of each preceding lecture by interroation instead of recapitulation, thus fixing the attention of the students; and his manner was so happy that this grave process proceeded like a piece of amusement. His irony was of a delicate kind and so blended with humor that he could repress forwardness and take notice of negligence so as to admonish his class without too much exposing the defaulter."

It is very likely that the rivalry existing between Morgan and Shippen in the founding of the medical school led to the quarrels between these men in the Revolutionary days. Scandalous charges and other troubles were experienced by each as director general of the Hospital, all of which was much out of keeping with their great personalities.

Briefly, during this period, Dr. Shippen was appointed director of the Hospital of the Flying Camp in New Jersey in July 1776. In April of the following year he was appointed by Congress as director general and physician in chief of the Hospital. Dr. Morgan had been dismissed from this position in the previous January. Morgan at once sought vindication and was granted this by Congress in 1779. Serious charges were continued against Shippen by Morgan, Benjamin Rush, James Tilton and others. He was brought to trial before a military commission in August, 1780, and was honorably acquitted. He resigned from the service in January, 1781, and returned to private practice and teaching, becoming equally distinguished in the teaching and practice of obstetrics. This followed for some 10 to 12 years.

It was during this period that he effected a great change in the habits of the city. We must not forget that still in Philadelphia at this time there were very few occasions where medical men were employed to conduct a childbirth case. It was only when something very important was to be done that they were resorted to, and very often when it was too late. This was altogether the effect of prejudice and not of necessity; even the best obstetrical practitioners attended very few natural labors. Shippen dispelled this prejudice so that in the course of ten years he became very fully employed as an obstetrician.

Then came the illness of his only son, in whom he was more than commonly interested, for this young man promised a brilliant future. In six years the illness was terminated by death. Then Shippen began to lose interest in the things about him and thereon sought solace in religion, gradually relinquishing his practice and teaching, until some 10 years later his health began to fail, he developed a hydrothorax which compelled him to give up work, and shortly after retiring to Germantown he was afflicted with an attack of anthrax which caused his death on the 11th of July, 1808.

From one who had known him personally we learn that—"Nature had been uncommonly bountiful in his form and endowments. His person was graceful, his manners polished, his conversation various and the tones of his voice singularly sweet and conciliatory. In his intercourse with society he was gay without levity and dignified without haughtiness or austerity. He belonged to a family proverbial for good humor. His father, whom he strongly resembled in this respect, during the long life of 90 years had scarcely ever been seen out of humor. He was also particularly agreeable to young people. Known as he was to almost every citizen of Philadelphia, it is probable that there was no one who did not wish him well."

It is of interest to note the advertisement for his first course of lectures on midwifery which began as follows:

"Dr. Shippen, Jr., having been lately called to the assistance of a number of women in the country

in difficult labors, most of which were made so by the unskilled old women about them; the poor women have suffered extremely and the little ones were entirely destroyed, whose lives might have been easily saved by proper management; and being informed of several desperate cases in the different neighborhoods which had proved fatal to the mothers, as well as to their infants, and were attended with the most painful circumstances, too dismal to be related; he thought it his duty immediately to begin his intended course of lectures on midwifery, and has prepared a proper apparatus for that purpose, in order to instruct those women who have had virtue enough to own their ignorance, and apply for instruction, as well as those young gentlemen, now engaged in the study of that useful and necessary branch of surgery who are taking pains to qualify themselves to practice in different parts of the country, with safety and advantage to their fellow creatures."

THE EARLY DEVELOPMENT OF AMERICAN OBSTETRICS

Before we can properly appreciate the advances made in early American Obstetrics we must first hastily survey the progress—a better word would be change—in this art and science that took place through the centuries preceding the settling of America.

For many centuries, during the early history of the world, there is no knowledge of any assistance being rendered to a woman during parturition. The process is a physiological one, and people in that age lived under physiological conditions. Woman was unaided—she was strong because natural selection had sent the weak to early graves. The pelvis was large and its bones elastic because no restricting clothing had been worn. The joints were movable and permitted of a great deal of extension because the first child was born as soon as possible after puberty, while the tissues of the body still possessed the yielding pliability of youth. The heads of the children were soft and compressible because the diet of the mother consisted of uncooked foods—raw meat, fresh fruits, nuts and roots.

Esthetic education makes the human race susceptible to pain. Not so in the early days; the more tenderly people are reared, the more sensitive they become to bodily injuries. So, in remote times, the mothers of our race gave birth to their children without complaint and for the most part without suffering. The Indian squaw gave birth to her offspring without any evidence of pain that we are familiar with among the white races. Usually, she retired into the forest alone, was delivered without assistance, arose, washed herself and child in the water of some neighboring brook or pond, wrapped the baby in a piece of fur or blanket, and then hurried on to join the rest of the tribe. There was no confinement to bed for an indefinite period of time. However, if the labor of the primitive mother was difficult, assistance of the straightforward type might be called into play. She was picked up by the feet and shaken head down, or rolled and bounced on a blanket—or, as was formerly done among some of the tribes of American Indians, labor was hastened by placing the woman on the prairie and having a horseman ride at her with the apparent intention of trampling her. Although the rider turned aside at the last moment, the fear inspired in the woman was sometimes effective in shortening her labor.

The art of caring for the child-bearing woman was fairly well developed at the peak of the Egyptian, Greek, and Roman civilizations. The Middle Ages were the most unfortunate period in the history of womankind. Complete ignorance prevailed without the intuitive skill of the primitive period and without the knowledge of previous civilizations. Religion took over the supervision of the prostitutes and the oversight of the practices of the midwives. The instructions and edicts issued by the monks were not, however, for the better care of the childbearing woman but rather to save the child's life for a sufficient time to allow it to be baptized. Thus it was typical of the age that attempts were made to form intra-uterine baptismal tubes, by which the child, locked by some ill chance in its mother's womb, could be baptized and its soul saved before the mother and child were left to die together. Nothing was done to save their lives. In the words of Haggard, "no greater crimes were ever committed in the name of civilization, religious faith and smug ignorance than the sacrifice of the lives of countless mothers of children in the first fifteen centuries after Christ among civilized mankind." Decidedly is this no exaggeration, for during the age of the medieval Christian the treatment accorded the childbearing woman was worse than the mere neglect among primitive peoples, because they saw in childbirth the result of a carnal sin to be expiated in pain. Her suffering was augmented by the fact that she was no longer a primitive woman, as well as the fact that civilization was bringing with it urbanization, cross-breeding

and spread of disease, all of which has made childbearing often unnatural and hazardous.

With the Renaissance there came a change in the care given the childbearing woman. This change was slower in advancing than were many of the other changes which marked this period. Material advancement is always made before humanitarian. Modern science has happily intervened and with it better obstetrics. There are two arts in medicine which can be traced to earliest records, and which of necessity received attention from the earliest civilizations: one is the healing of wounds, the other is the delivery of children. Women who had themselves borne children, and were thus taught by experience, assisted their neighbors just as warriors or hunters exposed to injury rendered aid to their injured fellow men. As the organization of the community advanced, some of these women who assisted at childbirth did so regularly, and eventually made it a calling. Thus arose the midwife, at first a blessing and a comfort but later one of the greatest impediments to the advancement of the obstetrical art. Assistance at childbirth was looked upon as a woman's work, and, because of the type of women who plied this trade, progress was impossible. The aid of the priest or man possessed of mystical power, and later the physician, was called in difficult cases only when the efforts of the midwife failed. It is only at the peak of ancient civilizations and quite late in our own that the physician personally took charge of labor in occasional cases.

The ignorance of men concerning the subject of midwifery is shown by an expression of a Dr. Culpepper in his book on Obstetrics published about 200 years ago. He remarked that he would have known more about the subject if he had ever witnessed a case of confinement! He bewailed the fact that he did not live in Holland, for there it was the custom for the wives to be confined on the laps of their husbands, and if such had been the case he might have had plenty of information, as he was the father of twelve children! The exclusion of men from the study of the child-bearing woman rose in some instances to fanatical heights. Dr. Wertt of Hamburg in 1522, put on the dress of a woman to attend and study a case of labor. As a punishment for his impiety he was burned to death. In 1513 Eucharius Roslin, who had probably never seen a child born, wrote a book of instruction for midwives. He may have felt something of the humor of his position for the title of his book is "The Garden of Roses for Pregnant Women and for Midwives." However, customs of the time were changing; trained and supervised midwives were a step toward the betterment of the childbearing woman, and the next step was the participation of the physician himself in midwifery. It became the fashion for ladies of the court to have male midwives. The title of accoucheur was given to replace the somewhat derisive appellation of man midwife or midman, or other contemptuous names which were often used to belittle physicians who practiced obstetrics. Thus, when Dr. Wm. Smellie in the 18th century established a school in London for teaching midwifery, he was christened by his competitor, Mrs. Nihell, the Hay-Market midwife, a "great-horse-grandmother of a he midwife." But the attempts of the physicians to practice obstetrics were met with opposition. Except in the case of royalty the male physician encountered prudery which rose to amazing heights. Sometimes he was forced to tie one end of a sheet to his neck and the other end to his patient's neck; while the view of both parties was unobstructed above this guard, the physician could not see beneath it. He made his manipulations blindly, but he spared his patient's blushes. The opposition to the participation of physicians in obstetrics did not cease altogether until nearly the present century. As late as the forties of the 19th century John Stevens of London denounced and exposed in his pamphlets "the danger and immorality of employing men in midwifery." He dedicated his efforts to the Society for the Suppression of Vice. The obstetrician of today is no longer exposed to condemnation and open derision. Nevertheless in those countries which are backward in their cultural development there still exists a remnant of the earlier attitude; it is shown in a certain evident if unspoken belittlement of the physician who assists the childbearing woman. He is felt by some people to be of lower caste than physicians in other branches of the medical profession.

It is the popular belief that Julius Caesar came into the world as the result of the cesarean section. This has been disputed,

however. At this time there was a law in Rome which required that the operation be performed upon a woman dying during the last few weeks of pregnancy. The law existed during the reign of the Caesars, hence was known as the cesarean operation. Capar Bauhm tells us that the first cesarean section performed upon a living woman was done in 1500 A. D. by one Jacob Nufer, a castrator of pigs, residing at Sigerhausen, Switzerland, with the recovery of the woman after the midwives and barbers had given her up to die.

Pare, re-introducing podalic version, and Vesalius, first showing the true relation of the bones of the pelvis, both loom high in the history of obstetrical art.

Toward the end of the 17th century Mauriceau made the bold innovation of having his patients delivered in bed and had dispensed with the obstetrical chair, whose antiquity was greater than the Bible. In spite of the innovation, the obstetrical chair held its supremacy and the brides of Holland continued to provide them with their trousseaus until the nineteenth century.

The introduction of the obstetrical forceps, retarded as it was by the charlatan Chamberlen family, was one of the greatest landmarks in obstetrical history. DeLaMotte, obstetrician of Volgens, criticizes the Chamberlens with these biting words—"He who keeps secret so beneficial an instrument as the harmless obstetrical forceps deserves to have a worm devour his vitals for all eternity."

Late in the 18th century, great impetus was given to obstetrics by the work of William Hunter on the gravid uterus, which was published in 1774. He helped in a great measure to establish the dignity of obstetrics and to elevate it to the position of a science, in short to open the way to its rapid progress. His work has been referred to as being to obstetrics what that of Euclid was to mathematics.

Obstetrical practice remained in the hands of the surgeons although the revival of podalic version and the invention of the forceps reduced the number of cases in which it was necessary to destroy the child. There developed a tendency to use instruments wherever possible. The general use of the obstetrical forceps gave even a wider play to this habit of "meddlesome midwifery." The surgeons, moreover, could not resist carrying with them into the obstetrical field the practice of blood-letting, and the parturient woman was bled for prophylaxis if everything seemed normal and for treatment if everything seemed abnormal. Finally there was a reaction against this operative interference and the obstetrical art was no longer taught as a branch of surgery.

Three prominent eras stand out in the science of obstetrics:

1. Invention and use of forceps.
2. Discovery and use of anesthesia.
3. Discovery and advocacy of germ theory as developed by Pasteur.

The science of obstetrics of such recent birth in Europe had not yet arrived in America, with the foundation of this republic. There was little evidence of its existence for the next quarter of a century. Here was a young country sparsely settled, struggling for independence. Until 1783 attention was entirely drawn from the pursuits of peace; agriculture, manufacture, science, art were all neglected. The establishment of peace found the country entirely unprepared at once to resume those pursuits to which it had so long been a stranger. People were impoverished, land unproductive, credit of the country was not yet established, and its exchequer was empty. Immediate material wants of the inhabitants claimed their almost undivided attention. Gaillard Thomas rightly expresses it when he says: "As an art, practiced by midwives, obstetrics was a vigorous plant, deep-rooted and strong; as a science, a delicate shoot, which feebly struggled with adverse circumstances for life; while the very seed of the sister branch of gynecology may be said to have been unsowed."

In spite of the prejudice of the community, at an early period even in colonial times a very small number of physicians, recognizing the claims of obstetrics, devoted themselves to its practice. In 1753 Dr. James Lloyd, a pupil of Smellie and Hunter, settled in Boston, and in the following year systematically began the practice of midwifery. He was the first practitioner so devoting himself, of whom records can be found. In 1762 the same course was pursued by Dr. Wm. Shippen, Jr., of Philadelphia; and these two pioneers in obstetrical science began the great work here which Smellie, Hunter and others were striving for abroad, of placing this important branch

upon a level with the sister departments of medicine and surgery. The success of their efforts may be judged by the facts that in 1762 Dr. Shippen delivered a course of lectures upon obstetrics; that in 1767 Dr. Tennant was appointed to a special chair on this subject in New York; and that thus introduced as a distinct department into the curriculum, the subject has to the present day been recognized as one of paramount importance and dignity.

During this period, essays were written by Orne, Osgood and Holyoke upon pudendal hematocele, Sigautian operation, rupture of the uterus, retroversion of the gravid uterus, extra-uterine pregnancy, and numerous case reports, evidencing an effort in the right direction. In 1791 a laparotomy for removal of an extra-uterine fetus was successfully performed by Wm. Baynham upon the wife of a Virginia planter. He operated with similar success upon a negro slave in 1799. Before Baynham's first case the operation had been only once performed in this country, namely in colonial times, by John Bard of New York, in 1759. Subsequently, it was repeated by Wishart and Alexander H. Stevens.

The dawn of the 19th century found the United States ripe for progress and advancement, and while it was yet young the lamp of medical science began to burn with a brightness which it had not shown before, and which promised well for the future. The way to progress in obstetrics was pointed out by the great Englishman, Hunter; and in the very first year of the new century a similar impulse was given to gynecology by the eminent Frenchman, Recamier. The greatest advances which have been made in the science and art of medicine in modern times have all been due to the subordination of facts to physical investigation and demonstration. At the commencement of the 19th century such influence was evoked in behalf of gynecology in the speculum uteri with which Recamier, in 1801, began the study of the diseases of female sexual organs. In 1807, ergot was first introduced into materia medica as an oxytocic by John Stearns, first president of the New York Academy of Medicine. Also in 1807, the first work upon obstetrics which appeared from the pen of a native author was that of Dr. Samuel Bard, of New York. I would like to quote one of Bard's cases from his compendum of the "Theory and Practice of Midwifery."

"*Case 115.* A poor woman, 60 years of age, complained of a tumor which hung down from the external parts between her thighs, attended by a discharge of mucus and of pus, so profuse in quantity as to make her extremely weak. Upon examination of the tumor, it appeared to be an inverted uterus, the whole surface of which was in a state of ulceration; above the tumor was the vagina, also inverted, having partial ulceration upon it; her sufferings, though not acute, were sufficient to interfere with her comfort; and her increasing weakness made her readily consent to the performance of an operation for the removal of them. A ligature was applied around the contracted part of the tumor; that is, where the uterus terminated, and the vagina began. It was tightened daily, until about the 11th or 12th day, when the parts included in the ligature were absorbed and the uterus fell off; during this time the patient complained of very little pain; adhesion had taken place between the sides of the vagina, so as to prevent the exposure of the cavity of the abdomen, and the woman recovered. After an operation of this kind, the vagina should be returned to its natural situation, and it should be kept there by a hollow globular pessary."

Dr. William Shippen, Jr.
(Reproduced from Packard's *History of Medicine in the United States*).

After reading such an account, how impressed one is with the giant strides made in obstetrics and gynecology in the last century —truly a complete story in itself.

James R. Chadwick, long an authority in this field, made a close observation and study of the art and science of obstetrics and gynecology in most of the countries of Europe, and he came to the conclusion that in these studies America leads the world.

Certainly, America has done her share in the past. And, judging from the present, she will be responsible for much that is advanced in the future in this great branch of medicine.

OAKLAND COUNTY MEDICAL SOCIETY

The City of Pontiac and Oakland County are in the limelight of Michigan medicine this present year owing partly to the fact that the annual meeting of the Michigan State Medical Society, as announced, will be held at Pontiac in September and also to the fact that it is the one hundredth anniversary of the founding of the Oakland County Medical Society. Dr. C. A. Neafie, Medical Health Officer for Pontiac as well as Councillor for the 15th district of Michigan, has prepared a history of Oakland County which we expect to print in these pages during the coming months. The re-organization of the Oakland County Medical Society took place on Sept. 9, 1902. The following contribution consists of the minutes of the first reorganization meeting, which minutes have been supplied us by Dr. Neafie.—Editor.

RE-ORGANIZATION OF THE OAKLAND COUNTY MEDICAL SOCIETY

September 9, 1902, pursuant to a circular letter issued by Dr. Colonel Bell Burr of Flint, Michigan, the Councilor of the Sixth District, and a call sent out by Drs. Mason W. Gray, Jason Morse, George H. Drake and William McCarroll, the Executive Committee of the Pontiac Medical Society, members of the Medical Profession in Oakland County, Michigan, assembled in the Council Chamber of the City of Pontiac.

Dr. Burr called the meeting to order.

Dr. Franklin B. Galbraith was chosen President of the meeting and Dr. W. McCarroll, Secretary.

Dr. Burr briefly stated that the object of the meeting was to organize an Oakland County Medical Society which would be a component part of the Michigan State Medical Society.

Dr. James C. Willson, the Vice President of the Michigan State Medical Society, also made an address showing what was being done in this line in other parts of the state, and benefits which would accrue to the Profession from such organizations.

A motion was made by Dr. Edmund A. Christian that "We hereby resolve ourselves into a County Medical Society." This was amended by Dr. Gray by adding the words "in accordance with the plan proposed by the American Medical Association and the Michigan State Medical Society," and in that form was passed unanimously.

A Committee composed of Drs. Gray, Morse, Christian and McCarroll were appointed to prepare a Constitution and By-Laws for the Society and their report on motion of Dr. Nenian T. Shaw was read at length by Dr. McCarroll.

Dr. John L. Campbell moved that the Constitution and By-Laws as read be accepted and adopted, which motion was carried unanimously after the dates for the annual and regular meetings had been chosen and the annual dues had been fixed. The motion of Dr. Christian, "that we now proceed to organize by the election of officers," was carried without dissenting votes. Drs. Charles M. Raynale and Joseph J. Moore were appointed tellers. Nominations by informal ballot for President were made; and then Dr. Christian moved that the Secretary cast the vote of the Society for Dr. F. B. Galbraith for President for the year and this also carried unanimously.

Dr. DeWitt Clinton Wade was elected Vice President. Dr. W. McCarroll was elected Secretary-Treasurer, and Drs. C. M. Raynale, E. A. Christian and M. W. Gray were elected members of the Board of Directors.

List of Charter Members of the Oakland County Medical Society who on September 9, 1902, authorized the Secretary thereafter to sign their names to the Constitution and By-Laws that day adopted at Pontiac, Michigan.

Joseph J. Moore	Farmington
Charles M. Raynale	Birmingham
DeWitt Clinton Wade	Holly
Robert LeBaron	Pontiac
Nenian Thomas Shaw	Birmingham
William Aitcheson	Ortonville
Talmage Herbert Prust	Pontiac
Geo. H. Drake	Pontiac
Jason Morse	Pontiac
John L. Campbell	Birmingham
Harvey S. Chapman	Pontiac
Carlton D. Morris	Pontiac
Edmund A. Christian	Pontiac
Stuart E. Galbraith	Pontiac
Daniel G. Castell	Holly
Virgil H. Wells	Pontiac
Reuben G. Dean	New Hudson

John C. Black ..... Milford
Aileen M. Betteys (Corbit) ..... Oxford
George W. MacKinnon ..... Oxford
B. C. H. Spencer ..... Rochester
John W. Fox ..... Orion
Nathan B. Colvin ..... Pontiac
Franklin B. Galbraith ..... Pontiac
Harry C. Guillot ..... Pontiac
William McCarroll ..... Pontiac
John H. F. Mullett ..... Pontiac
James J. Murphy ..... Pontiac
Robert Y. Ferguson ..... Pontiac
Mason W. Gray ..... Pontiac
Anna Jay Clapperton ..... Pontiac
Guy C. Conkle ..... Pontiac
Irwin H. Neff ..... Pontiac

BOARD OF DIRECTORS OAKLAND COUNTY MEDICAL SOCIETY

Year
1902 C. M. Raynale, Birmingham; E. A. Christian, Pontiac; M. W. Gray, Pontiac
1903 E. A. Christian, M. W. Gray, N. B. Colvin, Pontiac
1904 E. A. Christian, R. LeBaron, Pontiac; N. B. Colvin, Pontiac
1905 E. A. Christian, W. McCarroll, N. B. Colvin, Pontiac
1906 E. A. Christian, M. W. Gray, E. Orton, Waterford
1907 E. A. Christian, M. W. Gray, N. B. Colvin
1908 E. A. Christian, M. W. Gray, N. B. Colvin
1909 H S. Chapman, M. W. Gray, N. B. Colvin
1910 H. S. Chapman, C. D. Morris, D. G. Castell, Pontiac
1911 R Y. Ferguson, G. W. Drake, M. W. Gray
1912 R. Y. Ferguson, G. W. Drake, M. W. Gray
1913
1914 R Y. Ferguson, M. W. Gray, N. B. Colvin
1915 Wm. McCarroll, H. A. Sibley, Pontiac; F. S. Bachelder, Pontiac
1916 Wm. McCarroll, H. Sibley, Pontiac; F. S. Bachelder, Pontiac
1917 Wm. McCarroll, N. T. Shaw, Birmingham; S. A. Butler, Pontiac
1919 R. Y. Ferguson, E. Orton, C. J. Southerland
1920 A. W. Newitt, Birmingham; Geo. P. Raynale, Birmingham; H. A. Sibley
1920 Fred A. Baker, Pontiac; Geo. P. Raynale, D. G. Castell
1922 J. H. Neff, Birmingham; L. A. Farnham, D. G. Castell
1922 R. Y. Ferguson, F. A. Mercer, J. J. Murphy
1923 R. Y. Ferguson, Fred Baker, D. G. Castell
1924 R. Y. Ferguson, J. S. Morrison, A. V. Murtha
1925 R. Y. Ferguson, Peter Stewart, D. G. Castell
1926 R. Y. Ferguson, L. F. Cobb, D. G. Castell
1927 R. Y. Ferguson, B. M. Mitchell, H. A. Sibley
1928 R. Y. Ferguson, B. M. Mitchell, H. A. Sibley
1929 R. Y. Ferguson, F. A. Baker, Robert H. Baker
1930 F. A. Mercer, F. B. Gerls, A. V. Murtha

OFFICERS OF THE OAKLAND COUNTY MEDICAL SOCIETY

Year	*President*	*Vice President*	*Secretary-Treasurer*
1902	F. B. Galbraith, Pontiac	D. W. C. Wade, Holly	Wm. McCarroll, Pontiac
1903	D. W. C. Wade, Holly	J. J. Moore, Farmington	Wm. McCarroll, Pontiac
1904	Wm. McCarroll, Pontiac	C. J. Southerland, Clarkston	M. W. Gray
1905	R. LeBaron	C. J. Southerland, Clarkston	M. W. Gray
1906	J. J. Moore	G. W. MacKinnon, Oxford	C. D. Morris, Pontiac
1907	G. W. MacKinnon	T. E. McDonald, Holly	C. D. Morris, Pontiac
1908	C. J. Southerland	T. E. McDonald, Holly	J. T. Bird, Clarkston
1909	T. E. McDonald	E. A. Chapman, Walled Lake	J. T. Bird, Clarkston
1910	E. A. Chapman	E. A. Christian	R. Y. Ferguson, Pontiac
1911	E. A. Christian	Wm. McCarroll	J. B. Chapman, Pontiac
1912	C. M. Raynale	J. S. Morrison, Royal Oak	J. B. Chapman, Pontiac
1913	J. S. Morrison		J. J. Murphy, Pontiac
1914	J. A. Miller	P. D. Hilty, Birmingham	J. J. Murphy, Pontiac
1915	P. D. Hilty	E. F. Holcomb, Farmington	F. B. Gerls, Pontiac
1916	E. F. Holcomb	F. S. Bachelder	F. B. Gerls, Pontiac
1917	F. S. Bachelder	S. E. Galbraith, Pontiac	H. A. Sibley
1919	N. T. Shaw	S. E. Galbraith, Pontiac	D. G. Castell
1920	R. Y. Ferguson	F. B. Gerls	C. A. Neafie, Pontiac

Year	*President*	*Vice President*	*Secretary*	*Treasurer*
1921	H. A. Sibley	F. A. Mercer, Pontiac	A. V. Murtha, Pontiac	Robt. H. Baker
1922	Geo. P. Raynale	D. G. Castell	P. D. Hilty	Robt. H. Baker
1923	D. G. Castell	F. B. Gerls	Fred A. Baker	Robt. H. Baker
1924	F. B. Gerls	Peter Stewart, Royal Oak	L. F. Cobb	Robt. H. Baker
1925	N. B. Colvin	I. H. Neff	L. F. Cobb	Burton M. Mitchell
1926	N. B. Colvin	I. H. Neff	F. S. Bachelder	Burton M. Mitchell
1927	N. B. Colvin	F. A. Mercer	Fred Baker	Isaac C. Prevette
1928	F. A. Baker	F. A. Mercer	C. A. Neafie	Isaac C. Prevette
1929	F. A. Baker	D. G. Castell	C. A. Neafie	Isaac C. Prevette
1930	B. M. Mitchell	John S. Lambie	C. A. Neafie	Geo. A. Sherman
1931	L. A. Farnham	Robert H. Baker	C. A. Neafie*	Geo. A. Sherman

*Resigned May 20, 1931. Succeeded by Donald F. Hoyt.

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner
LANSING, MICHIGAN

MICHIGAN DIVORCES—1930

For the first time, we are able to present divorce statistics relating to the duration of the marriage. We append a table which gives the duration of marriage as indicated in the more than 10,000 divorces granted in Michigan in 1930.

Years of Marriage	Number of Divorces
Under 1	382
1	630
2	856
3	820
4	797
5-9	3,054
10-14	1,829
15-19	966
20-24	584
25-29	344
30 and over	218
Unknown	56
Annulments	103
Total	10,639

It will be observed that the greatest number of divorces had a marriage duration of less than five years, 32.2 per cent falling in this group, while 29.1 per cent had a marriage duration of from five to nine years, and 17.5 per cent from ten to fourteen years. The greatest number of divorces in any single year of marriage duration occurred during the second year, when there were 856, or 8.2 per cent.

Very significant, however, is the fact that there were 382 divorces, or 3.6 per cent, where the marriage duration was less than one year. On the other extreme, there were 218 divorces, 2.1 per cent, where the marriage had endured for thirty years or more. These figures surely invite sociological research.

It is interesting to note that Wayne County, with 39 per cent of the population of the state, furnished 54.0 per cent of the divorces. During 1930 there were 29,482 marriages in the state, which is equivalent to 2.8 marriages to each divorce. Where relatively a few years ago about ten per cent of marriages ended in divorce, the record for 1930 was more than 35.0 per cent. In Wayne County there were 12,127 marriages and 5,477 divorces, or 2.2 marriages to each divorce, or, stated otherwise, about 45 per cent of the marriages ended in divorce.

This comparison of marriage with divorce is perhaps not quite fair because many marriages take place outside of the state, whereas divorce must be in the place of residence. The recent enactment of the so-called Five Day Law in Ohio, requiring five days to elapse between the time of application for the license and its issuance, will undoubtedly reduce the number of hasty marriages and elopements.

The cause for divorce is not given in such detail as to permit any intelligent study. More than 83 per cent of the records give the cause as cruelty, either alone or in addition to some other cause, and it is obvious that the statement of cruelty does not disclose the real facts. A tabulation of causes given follows:

Cause of Divorce	Number
Cruelty	5,500
Non-support	607
Desertion	791
Drunkenness	11
Infidelity	20
Imprisonment	34
Fraud	3
Insanity	3
Cruelty and Non-support	2,569
Cruelty and Desertion	436
Cruelty and Drunkenness	41
Cruelty and Infidelity	52
Non-support and Desertion	226
Non-support and Drunkenness	19
Non-support and Infidelity	5
Desertion and Drunkenness	3
Desertion and Infidelity	3
Cruelty, Non-support and Desertion	171
Cruelty, Non-support and Drunkenness	36
Cruelty, Non-support and Infidelity	6
Annulments	103
Total	10,639

W. J. V. D.

DR. SLEMONS RECEIVES DEGREE

The degree of Doctor of Public Health was conferred upon Dr. C. C. Slemons, Michigan Commissioner of Health, by the Detroit College of Medicine and Surgery on June 18, at the regular Commencement exercises of the college.

The diphtheria prevention program carried on in Grand Rapids under Dr. Slemons' direction as Health Officer was the work upon which the degree was granted. A description of the plan of procedure and the results accomplished constituted Dr. Slemons'

thesis. In presenting Dr. Slemons for his degree, Dr. W. H. MacCraken, Dean of the Faculty, cited "his outstanding work in public health."

Dr. Slemons' thesis proves that diphtheria can be eliminated as a cause of death in a community by intensive and continued effort.

DR. BUNNEY HONORED

Dr. W. E. Bunney, Associate Director of the Bureau of Laboratories of the Michigan Department of Health, was elected to membership in the American Society of Immunologists in June. This honor was conferred upon Dr. Bunney in recognition of his work in diphtheria toxin and toxoid.

DR. MURPHY RETURNS

Dr. W. J. Murphy, Medical Inspector on the staff of the Bureau of Epidemiology, has returned to Lansing after a year's study in the Harvard School of Public Health.

CHILD HYGIENE ACTIVITIES

Women's Classes in Oceana County, conducted by Dr. Ida M. Alexander, have been completed, and Dr. Alexander is now carrying on a series of classes in Ontonagon County.

Helen Linn, R.N., is conducting a special series of nutrition talks in rural sections of Chippewa County.

Esther Nash, R.N., is in Huron County, organizing for a breast feeding survey and for a series of Child Care Classes in the fall.

Clare and Newaygo Counties have just had breast feeding surveys, conducted by Bertha Cooper, R.N., and Julia Clock, R.N.

Eaton County has the services of Caroline Hollenbeck, R.N., who is carrying on a prenatal and infant nursing service.

ROADSIDE WATER SURVEY

Work on the annual survey of roadside drinking water supplies used by highway travelers, carried on since 1925 by the Bureau of Engineering, was started on May 25th, when two representatives of the bureau left Lansing for the southeastern part of the state to begin the collection of water samples for analysis.

The plan of procedure for this summer will follow closely that observed last year. Inspection of sources of supplies and collection and testing of samples will be followed by posting of approved supplies. Work will be done on all trunk line highways and on a few of the more heavily traveled county roads.

The 1930 survey included inspection of, and analysis of samples from, 1,871 sources of drinking water in both the lower and upper peninsulas. One interesting phase of progress shown by the report of the summer's work was the lessening of distance between sources tested. In 1927 the average distance between sources of supplies was 6 miles. In 1928 this dropped to 4.66 miles. In 1929 it was 4.06 miles, and in 1930 it reached the low point of 3.81 miles.

The results of the roadside water surveys for the six years during which the work has been carried on are shown in the following brief tabulation:

Year	Miles Covered	Sources Tested	Number Safe	Per Cent Safe
1925	1787	427	272	63.7
1926	5479	805	619	76.3
1927	7190	1196	1000	83.6
1928	6435	1380	1159	84.0
1929	7797	1874	1583	84.5
1930	7246.8	1871	1617	86.4

CALCIFICATION OF INTRARENAL ARTERIES GIVING ROENTGEN APPEARANCE OF CALCULI

George Winthrop Fish and Leonard A. Hallock, New York, report a case of calcification of the walls of the large introrenal branches of the renal arteries in such a way that it gave the roentgenologic appearance of calculi or tuberculous calcification. Although calcification of this type has occasionally been noted at the postmortem table, so far as the authors have been able to determine there are no reports in the literature of a case similar to the one they observed and only a few vague references as to the possibility of its occurrence. This case is of peculiar diagnostic interest to the roentgenologist, internist, surgeon and urologist alike, as shadows such as these, though less numerous, are perhaps not infrequently seen, and, when associated with pyuria, hematuria or pain, offer a difficult diagnostic problem between calculus disease of the kidney and tuberculosis. In the light of this case it seems probable that such shadows associated with hematuria have been diagnosed as renal calculi and operations performed that were unsatisfactory to patient and surgeon alike.—*Journal A. M. A.*

THE JOURNAL

OF THE

Michigan State Medical Society

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AUGUST, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

THE ANNUAL MEETING

The 111th annual meeting of the Michigan State Medical Society bids fair to be one of the most successful in its history. Oakland County Medical Society, the host, is putting forth its best efforts in the way of providing entertainment. The event also provides a fitting occasion for the celebration of the centennial of the founding of the Oakland County Society.

The local medical society is putting forth its best efforts to stimulate health consciousness in the schools. Dr. Morris Fishbein, editor of the Journal of the American Medical Association, will deliver an address. Prizes, totalling $300, will be offered teachers and others writing the best résumé of Dr. Fishbein's address. There will be a health exhibit open to the laity and various health talks will be presented to the public by prominent men in the profession.

Those in charge of the scientific program of the Michigan State Medical Society are doing their best to equal if not excel the efforts of former years. This number of the Journal contains the preliminary program, which will give a fairly good idea of the feast in store for those who attend. The complete program will be printed in the September number of this Journal.

Since much of today's travel is by automobile, and the highways were never better, there should be a large representation of physicians from all over the State. Of course those from surrounding counties will be there in full force.

A LAYMAN'S VIEW OF MEDICAL RUSSIA

Elsewhere in this number of the Journal it is our pleasure to present to our readers observations made on the medical situation in Russia. Russia is now in the limelight as a great social experiment, of which, from its very nature, medicine also partakes. There are few laymen in a better position than Colonel George, the author of the paper, to observe and to draw trustworthy conclusions on such a subject. Colonel George insists on first hand knowledge, the opportunity for which came to him during the early months of this year, when he made a special trip to Russia, where he remained a number of weeks a student of social conditions, including those pertaining to medicine as it obtains in Russia. Colonel George is an impartial and unprejudiced observer. His experience as a world traveller has peculiarly fitted him for his self imposed task. He gives us the results of his observations so that we may view the situation through his eyes.

The investigation was made at the suggestion of Dr. Andrew P. Biddle, Ex-President of the Michigan State Medical Society and fellow member with Colonel George of the Public Library Commission of Detroit.

Colonel George concludes his article with an expression of his belief that it is the intelligentsia, the men of science, including medicine, who are making the great sacrifice in Russia.

UNEMPLOYMENT INSURANCE

Experience of the past two years has demonstrated the desirability of unemployment insurance from the viewpoint of the taxpaying citizen. Without some means of taking care of people who are temporarily out of work the onus falls entirely upon the taxpayer, as has been bitterly experienced in the larger industrial centers in this and other states. Of special classes the medical profession in particular has felt the burden keenly owing to the fact that what should be considered a community problem, namely the care of the indigent sick, has been left largely to the medical profession. While contemplating the subject of unemployment insurance many things should be taken into consideration, and above all lessons should be learned from the experiences of other nations and states where unemployment insurance of some form has been in vogue over a number of years. The difficulties of working out a satisfactory scheme of insurance seem at first sight unsurmountable. Those most directly concerned, however, namely the employer and the persons employed, should bear the major portion of the burden, and, to a much less degree, the state might be called upon to assist. In any scheme of private insurance the responsibility is divided between the insured and the insuring company. It would be too much perhaps to ask industry and labor to share the whole burden as the situation is at present. However, the burden is at present borne largely by a third party, namely the general taxpayer. We are not unmindful of the fact that both employer and laborer are taxpayers. However, in times of unemployment labor is not a taxpayer and industry does not pay more than it ordinarily does during prosperous times.

The National Insurance Act was adopted in Great Britain in 1911, since which date compulsory systems of unemployment insurance have been adopted in Italy, Australia, Bulgaria, Switzerland, Poland and Germany. Any plan of unemployment insurance adopted in the United States or any single state should be put in operation only after close study of the results in European countries. Acceptance of unemployment insurance as a principle is one thing; its application is another. H. M. Cassidy, a student of the subject, suggests that a satisfactory system should have the following characteristics: 1. It should guarantee adequate maintenance to the great bulk of the *bona fide* unemployed. 2. It should not be saddled with the support of shirkers or unemployables. 3. It should be on a sound actuarial basis, independent of periodical state subsidies. 4. It should be nation-wide in scope. 5. It should not impose any undue burden upon the development of industry. 6. It should draw its contributions largely from industry, with heavier charges assessed against establishments guilty of irregular operations than against those which are more regular.

Any form of unemployment insurance must put a premium on thrift and industry to the discouragement of incompetency and work-shyness. Undue burden should not be placed upon industry for the result will be to drive industries from the state, or to handicap them to such an extent that they cannot carry on. The worker should not be unduly favored, otherwise there would be an influx of workers from less favored communities, which would likewise be a bad thing.

It is too late probably to get into motion the necessary machinery for unemployment insurance for the benefit of the present depression, and as soon as the depression is over and becomes mitigated we are apt to forget and therefore to postpone the remedy to some uncertain future date. Depressions recur with such rythmic regularity that they may be predicted with more or less certainty. It is the *future* depression that should be anticipated and an attempt made to meet at the present time.

PUBLIC HEALTH EDUCATION

It is just ten years since the joint committee on Public Health Education was organized. The purpose as originally stated was, "to present to the public the fundamental facts of modern scientific medicine, for the purpose of building up sound public opinion relative to the questions of public and private health. It is concerned in bringing the truth to the people, not in supporting any school, sect, or theory of medical practice. It will send out teachers, not advocates." Much has been accomplished during the past decade, and several hundred lectures have been delivered before thousands of persons, members of high school classes and parent-teacher associations, as well as noontide clubs and industrial organizations. This

educational work has grown so steadily in popularity that the problem has been one of securing a sufficient number of trained and informed speakers to meet the increasing demands.

Starting out on the second decade of its history, a three year educational program has been proposed. The plan will involve closer contact with high schools and parent-teacher associations through a full time assistant director. The field work will include personal contacts with local medical societies. Dr. Henderson, who has been secretary of the joint committee since its organization, will have direct charge of the selection of the staff of lecturers, which he purposes to greatly enlarge and organize more efficiently. A lecture outlines library will be provided, as well as lecture synopses of important topics. The joint committee under the three year program will work in harmony with the Public Health Education program organized by the State Board of Health for the high schools of Michigan.

NORMAL GASTRIC ACIDITY

Studies have been made at the Mayo Clinic of gastric acidity based on an examination of 3,746 records of presumably normal cases; the purpose of the investigation was to ascertain the normal range of acidity, together with the variation in male and female stomachs, if any. The present study has included persons of all ages, whom both clinician and roentgenologist had pronounced free from demonstrable gastric disease. The investigator, F. R. Vanzant, further excluded all persons who gave a history of alcoholism, syphilis, advanced cardiorenal disease, anemia, leukemia, jaundice, myxedema, tuberculosis, Addison's disease, or disease of the liver or pancreas. The author noted the high incidence of achlorhydria, which was found to increase with the ages of the persons examined. The incidence of achlorhydria was found to be 4 per cent at the age of twenty, while it was found to be approximately 26 per cent in persons sixty years of age. At all ages women appeared to be slightly more subject to it than men.

The normal range of free acidity in males and females was found to be between 10 and 12 units in children less than five years old. The gastric acidity increases from this age so that at the age of fifteen years it is practically that of adults, which in women is 35 units; in men between twenty and forty years of age it is about 50 units. After fifty years of age the free acidity in men diminishes until the age of sixty-five, when it is the same as that of women. The total acidity for women appears fairly constant at 51 units throughout adult life. The total acidity for men ranged from 66 units at the age of twenty to 56 units at the age of sixty-five.

W. C. Alvarez, who discussed the paper, deplored the efforts on the part of physicians to alter some physiologic function when there was no clear idea of the normal range of that function. Only a year ago Bloomfield pointed out the normal variation of the gastric secretion with age; Vanzant is the first to demonstrate its variation between the sexes. It has been found that the mean acidity in women does not decrease at all. The conclusion is that the decrease in men with age is not due to senile atrophy of the gastric mucosa as originally held, since if true it should be equally marked in women. Similarly the increase in achlorhydria cannot be attributed to senile atrophy. If senile changes produce anacidity, they should also produce subacidity, which was not found to be a fact. Alvarez considers anacidity an inherited peculiarity which tends to be revealed as age advances.

THE DAMAGED HEART IN INDUSTRY

This is the title of a paper that appears in the present number of this Journal. It appears by the special request of several members, who heard it read at the annual meeting of the Michigan Association of Industrial Physicians and Surgeons. The author deals with a subject of great importance not only to the worker and employer but also to society at large, inasmuch as physical incapacity among workers is becoming an alarming social problem. This includes also the slowing up that comes with age.

Dr. McIlvain has discussed one factor only, The Damaged Heart is Industry. He contends there are stages in heart impairment in which man's usefulness in certain occupations is not in the least diminished, since workers are capable of rendering satisfactory service and therefore capable of supporting themselves and their families. Turning men loose on attaining a certain age, or

when they show signs of physical decline, has already given rise to a community problem of maintenance as well as a psychological problem, for men of so-called middle life, while they may lack the endurance of younger men, are usually at their optimum mentally. Privation of honorable means of subsistence is productive of discontent. The same is true of younger men whose ailment may be so slight as to be scarcely noticeable to themselves under ordinary circumstances.

There are other physical conditions besides damaged hearts that are worthy the attention of the industrial physician. Of course, the industries have the final word and industry is seldom altruistic. There is the question of compensation in the event of injury or death by accident, also the matter of maintaining the pace even at a task that may not entail much muscular exertion. Success in industry is measured by dividends, so in spite of sporadic instances of altruism on the part of a few employes the race will continue to the strong.

HOW IT IS AFTER GREAT WARS

While the war of 1812 which culminated in the Battle of Waterloo in 1815 was very much eclipsed by the great war which began approximately one hundred years later, the aftermath was apparently similar. The following is an extract from a letter written by a patient to his physician at Eaton, New York, on October 21, 1819. We could well imagine such a letter written describing conditions today.

"My health is very good at present, which is more than I can say with certainty of my prospects in general. The general stagnation of all business in consequence of the unparalleled scarcity of cash, seems to stare me in the face with a most piteous aspect. And I am now more than ever convinced that the axion of Townsend with respect to the human system may justly apply to the social system. He says 'vital energy of an organ is in proportion to the quantity of well oxygenated blood that passes through it,' or something to that effect—as cash may be considered the life blood of social life the present may be considered an alarming crisis in the public's social health. Yet this complaint may be referred to causes similar to those which the same author names as the cause of so many complaints, viz., sordes in the primæ viæ.' Luxury and indolence have long existed in the primæ viæ of the public and must be ejected before perfect health can be restored. It were to be wished then that full doses of economy and good habits compounded with a little tincture of virtue might be speedily administered—the virtue, however, might be preferable if given in substance.

"I hope this may be done, and that health and happiness may once more exist in the whole system. And as I am an organ of this system (though it were as difficult to tell my use as it is that of the spleen or the thymus gland in the human system) I might be benefited."

CORRESPONDENCE

TAKE A LESSON FROM GENESIS

To the Editor of the Journal,
Michigan State Medical Society:

I have read yesterday in the July issue of the Journal your very apt and—thank God—short, editorial on "Unemployment and the Medical Profession." The figures you present, showing approximately 45,000 destitute families in Detroit during the past year, and with consequent expenditure of $20,000,000 to care for them, are, I think, approximately correct. It is staggering to think that out of the pockets of those of us who pay taxes and whose incomes have been cut anywhere from 30 to 70 per cent during the period above mentioned, should come the money to meet this tremendous expenditure.

Of course this economic depression of 1930-1931 is no new thing, and those of us who are among the elders in the profession can undoubtedly call to mind in the past forty years a goodly number of economic depressions similar to the present one, although not so severe.

Far be it from me to attempt an exploitation of any theory regarding the present crisis, for we who read the papers, and the current magazines, and the popular books upon economics, are wearied to death with the multiplicity of efforts made through these various media to offer some solution of the underlying causes of the present crisis.

Like you, in your article, I prefer to exercise the utmost restraint, and not to weary you or your readers with futile suggestions. I can commend your restraint in the article which you have written and shall endeavor to copy it in this article as well as with my dealings with my unfortunate fellows.

The one point upon which I think commendation to you is imperative is in the suggestion you make of a remedy for the condition which carries as an implication the underlying cause. I refer, particularly, to your suggestion of *unemployment insurance.* Not the socialistic type of insurance which is sought by so many critics and visionaries today, but the type of insurance that in the fat years of our national existence shall put by sufficient funds from the employer and from the employe to carry both of these groups over the—always to be expected—lean years.

May I suggest to your readers the re-reading of the forty-first chapter of Genesis, Verse 29 et sequitur, in which the story is told of Joseph and his brethren through a period of tremendous economic depression in Egypt and in the surrounding countries about 3,000 years ago.

Such re-reading will show that an exceedingly astute ancestor of "the Jew," then chief steward or vizier of the kingdom of Pharaoh, having undoubtedly learned by experience the signs of the times, and being fully aware that economic crises come at more or less regular intervals, made plans and haste during the period when Egypt was at its apex of prosperity, to lay by and to store in warehouses throughout the kingdom sufficient cereal supply to carry their own nation, the Egyptians, and perforce some of the neighboring nations through the lean years which always and inexorably follow the fat ones. According to all the historic data at our disposal, Joseph the Wise stored up through seven years of prosperity, agricultural, economic, and industrial, a vast amount of reserve material which

could be utilized as subsistence for the nation. The records show that during these seven plenteous years he assessed both capital and labor to the extent of 20 per cent, or, as the word of the book has it, he took one-fifth of the product of the soil and of the nation throughout the period of seven years. To put it in another language and in other terms, he took the wealth which the nation produced over one and one-third years during this period for insurance purposes. This method of insurance is somewhat unusual, but, judging from the results, entirely effectual. The seven fat years were followed by seven lean, with the usual accompaniment of drouth, famine, and unrest, but the unemployment and crop insurance which Joseph had inaugurated as a national scheme proved so successful that the nation survived without a serious disturbance, and his brethren were able to come from the far countries and purchase, as other Outlanders did, sufficient food to save them from starvation during these black years.

Now, history has been denominated by a certain well-known capitalist as "Bunk." But to most of us it is the most valuable bunk in the world. It has taught us through all the centuries this lesson—that events and conditions have a way of repeating themselves at regular intervals through all the ages. Thus, here we are in 1931 with a crisis, economic, agricultural, and industrial, which may well parallel the crisis occurring in Egypt 3,000 years ago.

The story that I have just quoted from Genesis is an old story, but it undoubtedly taught a lesson to the Orientals of that age, and yields to us a lesson equally valuable today.

In time of prosperity prepare for adversity. Lean years always follow fat ones. In my judgment the inauguration of some scheme such as this one which we have told you today would do more to prevent the spreading of communistic ideas among our workers and among the great proletariat than any amount of propaganda foisted upon us by a subsidized, or even by a free press.

Again commending you for your courage, your accuracy, your clearness of vision, your restraint, I beg to remain,

Yours most truly,

W. M. Donald.

938 David Whitney Bldg.,
Detroit, Michigan,
July 9, 1931.

THE SOBBIN' O' THE SISTERS

A'm tired, a'fu' tired o' the gaff that's goin' roon
'Boot the hard times that are passin' an' th' guid times comin' soon,
But I ken there's naething to it but the propagandin' croon
O' a bunch o' sobbin' sisters, that's a'ways roon the toon.

We are needin' noo a he-man wha kens a thing or two,
Wha faces a' things as they are an' kens that it is true
That as soon as we adjust oorsel's tae th' times we hae th' noo
The sooner we'll be eatin' bread wi' butter on it too.

The Republican is guilty, says the man, the Democrat,
An' ithers say that Volstead is to blame for where we're at,
Real estate an' racketeerin', stock markets fa' an' that,
Is naethin' tae the sobbin' o' the sisters an' their chat.

It started wi' us when at war, an' abnormal times were here
When we bought an' promised pay, listenin' tae the hired cheer,
When we a' went nearly crazy, buyin' everything too dear,
'Til oor salaries a' were mortgaged, for anither hundred year.

Then came the propagandist, an' mither's Willie, too,
Commissions an' committees, health workers not a few.
Salesmen wi' high pressure—a giant worthless crew,
They added naethin' tae th' worl', but a' big salaries drew.

Then the saftie politician wha didna go across,
The lobbyist an' agent an' a' wha tried tae boss,
Th' dreamer an' th' talker, wi a' his applesauce—
They're a lot o' sobbin' sisters, wi' backs a' claethed wi' moss.

This sobbin' o' the sisters, 'boot the business o' the State,
Is only makin' jobs for those wha dinna rise till late,
An' mixin' up the government wi' every family trait
Till we noo are a'maist governed by a man for every eight.

This paternalistic doctrine, noo maternalistic sap,
Is the whine o' sobbin' sisters,' that doesna care a rap,
They wad mak' a Coxey' Army, a noisy ane at that,
They're sucking a' the juice there is inside the people's pap.

It stultifies ambition, independence, pride and pep,
It's just as unAmerican as anything we get.
The fellow wha is hungry and wants to pay his debt,
Needs juist aboot an acre wherein his hoose tae set.

But ye coax him tae the city where he has tae pay a rent,
An' naething but his wages can he get by law's consent,
Then his job goes topsy-turvy, doesna matter where it went,
But he's left upon an island and he hasna got a cent.

There's a lot o' wee bit mayors an' ithers o' their set,
Wha are juicy politicians, gatherin' suckers in their net,
Wha would feed an' dole these people, addin' to their discontent,
Raisin' disrespect and taxes, we ken weel we're trouble bent.

Oh, gi' us noo a he-man, wha has the guts tae speak
An' show us hoo tae start again, wi' independent feet,
Wi'oot the politician, the barnacle, the cheat,
An' every man responsible, co-working for his meat.

We need an *evolution,* note the word ah chose tae sing,
Wi' a he-man at the helm, an American manly thing,
Th' *ither word* is comin' wi' communistic bing,
'Less th' he-men o' the country puts a hat intil the ring.

Sure as Hades is nae Heaven, we must instigate a plan
Where families hae their gardens wi' food tae help the man,
Make America for Americans wha are American

Not by takin' out their papers, but by being American.

We must move oor hundred millions frae the city's city roar,
Mak' them build their hames in sunshine, wi' flowers at their door,
There's a livin' doon in Texas for a hundred million more,
They need be willin' workers an' American to th' core.

Course we needna look for helpfulness or any michty boon
Frae th' present politicians, or ithers, vera soon,
For this bunch o' sobbin' sisters will sob and sob and swoon
'Til th' he-man o' th' country gets up and knocks them doon.

—Weelum

Note—This is the same "Weelum" who has written for this Journal before. He has also contributed in his native Doric to the Tonics and Sedatives of the Journal of the A.M.A. and likewise to the Wayne County Medical Bulletin. "Weelum" limits his practice to diseases of the eye, ear, nose and throat and is well known personally to the ophthalmologists and oto-laryngologists of this State. Through characteristic modesty he wishes to appear under his sobriquet rather than the name given him by his immediate ancestors.—Editor.

THE AMERICAN COLLEGE OF PHYSICIANS

The American College of Physicians will hold its Sixteenth Annual Clinical Session at San Francisco with headquarters at the Palace Hotel, April 4-8, 1932. Following the Clinical Session, a large percentage of the attendants will proceed to Los Angeles, where a program principally of entertainment will be furnished April 9, 10 and 11.

Announcement of the dates is made particularly with a view not only of apprising physicians generally of the meeting, but also to prevent conflicting dates with other societies that are now arranging their 1932 meetings.

Dr. S. Marx White, of Minneapolis, is President of the American College of Physicians, and will arrange the Program of General Sessions. Dr. William J. Kerr, Professor of Medicine at the University of California Medical School, San Francisco, is General Chairman of local arrangements, and will be in charge of the Program of Clinics. Dr. Francis M. Pottenger, of Monrovia, is President-Elect of the College, and will be in charge of the arrangements at Los Angeles. Mr. E. R. Loveland, Executive Secretary, 133-135 S. 36th Street, Philadelphia, Pa., is in charge of general and business arrangements, and may be addressed concerning any feature of the forthcoming session.

"There is therefore a basis for the idea that senility is catching, and for seeking the companionship of the young and thereby letting autosuggestion work in a constructive direction. A well occupied mind, a happy disposition that thinketh no evil, naturally smiles instead of frowning on a stranger or a new idea, free from anger, hatred, and jealousy, the vice that gives no pleasure to anyone, and an attitude of charity in its original and best sense, all tend to prolong life and make it a happy and healthy prelude to crossing the bar. In Sir James Crichton Brown's words: 'The best antidote against senile decay is an active interest in human affairs, and those keep young longest who love most.'"—Sir Humphry Rolleston in *Aspects of Age, Life and Disease.*

GENERAL NEWS AND ANNOUNCEMENTS

PROGRAM UPPER PENINSULA MEDICAL SOCIETY MEETING

August 13 and 14, Houghton

THIRTY-FOURTH ANNUAL MEETING UPPER PENINSULA MEDICAL SOCIETY

Headquarters and Scientific Exhibits, Douglass House, Houghton.

Business and Scientific Sessions, Kerredge Theatre, Hancock.

August 13—9:00 a. m. Registration of members at Headquarters (Douglass House).

Morning Session

10:00 a. m.—Welcome addresses by Mayor R. H. Shields, Houghton, and Mayor Norman Starrett, Hancock.

10:15 a. m.—Response by Dr. C. N. Bottum, Marquette, President Upper Peninsula Medical Society.

11:00 a. m.—Address: Dr. C. C. Slemons, State Commissioner of Health, Lansing.

11:30 a. m.—Paper, "Indirect Inguinal Hernia, Etiology and Treatment with Simplified Surgical Technic," by Dr. F. S. Stocking, F.A.C.S., Calumet, Mich.

12:00 Noon—Adjournment for lunch, Scott Hotel, Hancock.

1:00 p. m.—Paper, "Gastric Surgery," by Dr. Norman Allen, Associate Attending Surgeon, Harper Hospital and Instructor in Surgery, Detroit College of Medicine and Surgery.

1:30 p. m.—Paper, "Surgery of the Gallbladder and Ducts," by Dr. Waltman Walters, Surgical Section of Dr. Waltman Walters, Mayo Clinic.

2:00 p. m.—Paper, "Acute Intestinal Obstruction," by Dr. R. C. Stone, Battle Creek, President, Michigan State Medical Society.

2:30 p. m.—Paper, "Pelvic Infections," by Dr. Norman F. Miller, Iowa City, Professor Obstetrics and Gynecology State University Iowa College of Medicine.

3:00 p. m.—Recess, 15 Minutes.

3:15 p. m.—Paper, "Surgical Kidney," by Dr. Armour Fletcher, Milwaukee, Professor of Genito-Urinary Surgery, University Marquette Medical School.

4:00 p. m.—Paper, "Nephritis," by Dr. E. K. Kerr, Chicago, Professor Internal Medicine, Rush Medical School.

4:30 p. m.—Paper, "Pathology, Heart and Kidneys," Dr. V. C. Weller, Ann Arbor, Professor Pathology, University Medical School, Ann Arbor.

5:00 p. m.—Adjournment.

7:30 p. m.—Society Banquet for Physicians and Ladies at Douglass House.

Drs. Louis Hirschman, R. C. Stone and James D. Bruce will make after-dinner addresses.

Other distinguished Guests will be introduced and acknowledge introduction by rising.

August 14, Morning Session

9:15 a. m.—Meeting called to order.

9:30 a. m.—Paper, "Coronary Disease," by Dr. N. C. Gilbert, Chicago, Specialist and practice limited to diseases of heart.
10:30 a. m.—Paper, "The Applications of Bone Grafting," by Dr. V. L. Hart, Ann Arbor, Professor University Medical School, Ann Arbor.
11:00 a. m.—Paper, "Surgery of Sympathetic Nervous System," by Dr. A. W. Adson, Surgical Section of Neurology, Mayo Clinic.
11:30 a. m.—Paper, "Mental Health of Children," by Dr. E. H. Campbell, Medical Superintendent, Newberry State Hospital, Newberry.
12:00 Noon—Paper, "Diseases of Rectum," by Dr. Louis Hirschman, Proctologist, Detroit.
12:30 p. m.—Business Meeting and Election of Officers for 1932.
1:00 p. m.—Adjournment for lunch.
2:00 p. m.—Golf for members desiring golf at Houghton Club.
2:00 p. m.—Clinic at St. Joseph's Hospital, Hancock, Mich.

For reservations communicate with Drs. Robert Harkness and Alfred Labine, Houghton, Mich.

President Stone will attend the August meeting of the Upper Peninsula Medical Society.

Dr. L. Ferdinand Foster was elected President of the Bay City Rotary Club.

Please note the preliminary program for our annual meeting that is published in this issue. Note the dates and plan to attend. The Pontiac members are eager to have you enjoy their hospitality.

New and Non-official Remedies, 1931, containing descriptions of the articles standing accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1931. Cloth.

Dr. Frank A. Kelly of Detroit was elected president of the American Medical Golfing Association in Philadelphia June 8. The membership of the organization is made up of fellows of the American Medical Association. Dr. Kelly's election, which was unanimous, followed the seventh annual golf tournament and dinner of the Society.

Dr. Angus McLean of Detroit addressed the Middlesex County (Ontario) Medical Society at its meeting at Pond Mills on the afternoon of July 15. He spoke on "Medicine and Its Co-Dependence." At the close of the scientific program Dr. McLean was elected by unanimous vote to honorary membership in the Middlesex Medical Association.

INFANTILE PARALYSIS OUTBREAK SPREADS

Infantile paralysis is increasing throughout the country. The number of cases reported to the U. S. Public Health Service has nearly reached the high figure of the 1928 outbreak. For the week ending August 23, there were 325 cases throughout the entire country, with over 60 cases in California alone. This state has had a high number of cases for several weeks, but the disease has lately spread considerably in eastern and middle western sections. It is probable that the outbreak will last for two or three weeks, but it is not considered alarming, officials stated.—*Science Service.*

HYPERTELORISM: FOUR CASES

According to William Anthony Reilly, San Francisco, hypertelorism is a developmental defect of the lesser wings of the sphenoid bone; they ossify early in uterine life and grow excessively. This causes the typical widely separated eyes. The skull is brachycephalic. Mental retardation can occur. There are other similar occurrences of hypertelorism in families. Four additional cases in American literature are reported, bringing the total of reported cases to seventeen. Only one patient had definitely normal mentality; one had a history of previous occurrence of hypertelorism in the family. This patient possibly showed for the first time in the literature the combination of the three classic signs—family tendency, orbital separation and retarded mentality. It is more correct to refer to family tendency than to heredity in this condition.—*Journal A. M. A.*

FRIEDMAN'S HORMONE TEST FOR PREGNANCY

Thomas B. Magath and Lawrence M. Randall, Rochester, Minn., believe that although the hormone pregnancy test devised by Friedman, using urine which is injected intravenously into rabbits, is simple to perform, certain precautions are necessary. In the first place, the first urine passed in the morning should be used and should be injected within an hour, or the specimen should be kept on ice until it is used. Urine older than five hours probably should not be used. If the urine is cloudy it should be filtered. Rabbits younger than two and a half months should not be used, and there is no objection to using old animals if they have not recently copulated. It is absolutely essential that rabbits be kept under such conditions as to insure their not being pregnant as well as not having recently copulated. If the rabbits are young, care will have to be exercised to be sure that females and not males are selected for the test, for the external genitalia are not so clearly recognized as in older animals. It is best to isolate animals in single cages for three weeks before using them, thus avoiding any of these difficulties. Sterile technic is not necessary, and from 7 to 15 c.c. of urine should be injected slowly into the marginal ear vein of the rabbit. Thirty hours should elapse before the animals are examined, else the test may be indefinite. Positive tests are indicated by the presence of corpora lutea and corpora hemorrhagica, which are detected by gross inspection. If they are not clearly evident, the test had best be considered negative. In the authors' series of positive animals, marked injection of the uterus and oviducts was striking. The test is both practical and accurate. It is of great value in distinguishing either early or late pregnancy from other conditions. Perhaps its greatest value will be in detecting early pregnancy in cases in which continuation of the pregnant state would be dangerous to the physical well-being of the patient.—*Journal A. M. A.*

SOCIETY ACTIVITY

Oakland County Greets You. For 111th Annual Meeting--September 22, 23, 24, 1931

Greeting from the Oakland County Medical Society

Fellow Members *of the Michigan State Medical Society*

We, the members of the Oakland County Medical Society, extend to you a most cordial invitation to visit our community at the annual meeting of the Michigan State Medical Society in September.

We are proud that Pontiac has grown to maturity in being able to entertain this meeting, and you will make us particularly happy if you will join with us in our Centennial program, the one hundredth birthday of the founding of the first medical society in Oakland County. We believe that such a meeting should be serious in nature, and you may expect the scientific program to predominate. Plans have been made, however, for a variation in the usual annual meeting, which will feature our Centennial. You will note in the following pages that our program begins on Sunday night, September 20, and ends the evening of Thursday, September 24. We invite you to come early and feel certain you will not wish to leave until after the final evening session.

For entertainment, we are abundantly equipped with neighboring golf clubs, for those who wish diversion from the scientific sessions. We want your wives to come with you. Our Women's Auxiliary, recently formed, is anxious to entertain them.

Many of you living in this part of the State already know the facilities of Pontiac and the beauty of the surrounding country. For those coming from greater distance, we assure you that every effort will be made to make your stay comfortable, convenient and profitable. You will be truly visiting Michigan's Land of the Lakes, for Oakland County boasts of some four hundred inland lakes, all of which are easily reached by improved highways and are bounded by cottages, beautiful country estates and country clubs.

Pontiac, as you may know, is primarily an automobile city, but we will not burden you in these pages with real estate sales talk. We have endeavored to acquaint you briefly with its history and more especially with its medical aspects which we judge are your chief interest.

It is anticipated that many attending this convention will come by auto and many within driving distance may wish to return home at night; all others, we believe, we can comfortably accommodate in the hotels listed, or in lesser hotels, should the demand arise.

Oakland County Medical Society,
Robert H. Baker, *General Chairman.*

ONE HUNDREDTH ANNIVERSARY

The 1931 meeting of the State Society will witness the one hundredth anniversary of the Oakland County Medical Society.

The local society has made plans for a celebration in the form of a Health Exposition to be held in the First Presbyterian Church during the period of the state meeting.

On the Sunday preceding, a public church service will be held in the Baptist Tabernacle, at which meeting the Rev. Mr.

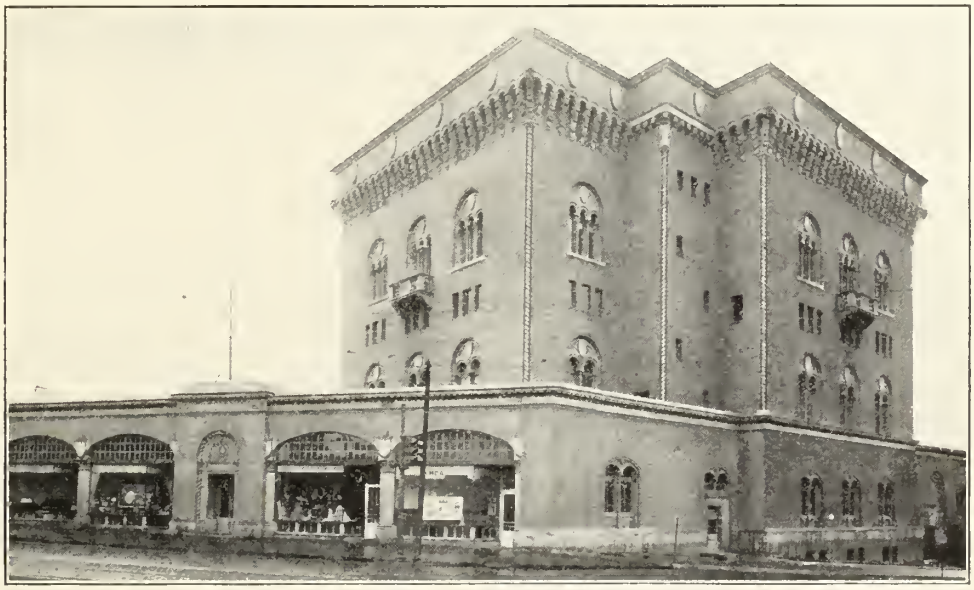
Savage of Pontiac will address the congregation on public health conservation. This talk will be broadcast over radio station WJR. This meeting will contemplate a memorial to those physicians and surgeons who have formerly practiced in Oakland County.

On Tuesday, Wednesday and Thursday, September 22, 23, 24, the Health Exposition will be in progress at the First Presbyterian Church. These exhibits will consist of educational features regarding health protection, diseases, prolongation of life, child care, communicable diseases, exposure of quackery, medical education and public health activities. Participants in this affair will be: State Health Department, American Medical Association, Oakland County Health and Pontiac Health Departments, Metropolitan Life Insurance Company, Visiting Nurses Association, American Red Cross, Public Schools, Oakland Motor Car Company, Fisher Body Corporation, Wilson Foundry and Machine Company, General Motors Truck Corporation, Children's Fund of Michigan and the Police Department.

Each day the public will be addressed by selected speakers who will be assigned suitable health and medical subjects. Arrangements will be made to have trained attendants at the exhibits to explain and demonstrate to the visiting public.

Extensive county-wide publicity will be secured through the coöperation of the press, Board of Commerce and bulletins.

On the last day of the meeting arrangements have been made for a public meeting in the Tabernacle of the Baptist Church, where Dr. Fishbein will address an audience upon the progress of medical science and that which scientific medicine is accomplishing. The local society has set aside the sum of three hundred dollars for prizes. These prizes are to be given to the teachers and high school students of Oakland County who present within thirty or sixty days the best essay reflecting the main points of Dr. Fishbein's address and the achievements that modern medicine is accomplishing.



Masonic Temple, Pontiac, Meeting Place

We, in Oakland County, feel that this Health Exposition will create an intense public interest and that it will exercise in a large way a health influence upon the people of Pontiac and Oakland County. It is hoped that we will receive commendation and the whole hearted support of the members of the State Society to bring about the consummation of our plans.

Evening Program Thursday, September 24, 8 p. m.

Meeting opened by Dr. Farnham, President of the Oakland County Medical Society.

Introduction of Dr. F. A. Baker, Chairman of the Centennial Committee, who will make announcements concerning the prize contest.

Introduction of Dr. F. C. Warnshuis by Dr. Farnham.

Dr. Warnshuis will introduce the speaker, Dr. Fishbein, who will speak on "Borderlines of Medicine."

Dr. L. A. Farnham, President Oakland County Medical Society

EARLY PONTIAC

Pontiac, Michigan, is located in Oakland County, surrounded by more than four hundred spring fed lakes, that nestle among the wooded hills.

Pontiac was named after chief Pontiac, famous chieftain of the Ottawas who roamed with his Indians over the hills and fished in the beautiful spring fed lakes over more than a century ago.

Legend has it that when the morning sun glistened on our many lakes, it gilded the hills about until they seemed like protecting shields of burnished gold. It shone warmly on a fertile valley. Chief Pontiac, looking down upon the scene, shielded his eyes from the bright rays, and thought here is a home for my people and so it became their home —a home beautiful, a home sheltered.

In the State of Michigan, and Oakland County alone, lie this chain of beautiful clear lakes, many of them miles in length and width with beaches of white pebbles, shaded by trees of the forest primeval, surrounded by winding roadways. Two rivers, the Huron and Clinton, run through these lakes, winding, turning and twisting till after a course of hundreds of miles they at last rest in lakes Erie and St. Clair.

These rivers in summer are dotted with the water lily and on their banks in days of old stood many a wigwam.

Orchard Lake, one of the larger of nature's gifts to Oakland County's beauty, carries within its shores a large island, wooded to its very shores. On this island are a few apple trees "Old and Gnarled," remnants of an orchard planted so long ago that the Indians have no date of its planting. This island was named "Mennah-sa-gor-ming," meaning "Apple Place," which still lives in tradition. It was on this island the Algonquin Chief Pontiac had his lodge after his repulse at the siege of Detroit. Orchard Lake, the scene of many old traditions, lies almost in the center of Oakland County, of which Pontiac is the county seat. Rarely does one find a city so surrounded with natural resources and beauty, plus the foresight and advantages of man's commercial genius.

Pontiac is a fast growing industrial center; its first white settlement was established in 1818 and in the next century its population grew to 30,000 inhabitants. In the last twelve years it has grown to nearly 65,000 population. Here are located many units of the automobile and allied industries. The buildings cover many acres of floor space, whose equipment is the very latest product of man's productive engineering skill.

Pontiac has many beautiful commercial and civic buildings. Its merchants are alive and up to date in caring for the public needs. Its schools and churches are second to none in Michigan for a city of its size. Here the youth of today are trained to build for the future a Pontiac of civic achievement, moral culture and manufacturing skill, which will be kindred to our past growth.

Very aptly has Pontiac been called the Summer Wonderland of Michigan. It can be reached from every point of the compass on improved highways. If you have never

motored over these highways you have missed many of the most charming drives imaginable. Wider Woodward, the Wonder Super Highway, leading south from Pontiac through Bloomfield Hills and other cities of picturesque beauty, finally lands one in the City of Detroit.

Pontiac is well prepared to play a good host to its visitors and tourists through its three hotels and information facilities of its Board of Commerce at 17 East Huron Street.

PONTIAC GENERAL HOSPITAL

Formal opening of the Pontiac General Hospital was made Monday night, January 19, 1931, when the medical staff of the institution, city officials and a number of invited guests had dinner in the staff dining room. During the evening Architect Leo J. Heenan turned over the building to City Manager James R. Pollock, who accepted it on behalf of the city.

Monday night's program consisted of short talks by men who have been closely associated with the planning of Pontiac's hospital program and the building of the new institution, and an address by Dr. E. R. Crew of the Miami Valley Hospital of Dayton, Ohio, and an authority on hospital planning and organization.

A number of facts are outstanding among the hundreds of amazing and interesting details to be learned about the city's new hospital. In all of Detroit, there is no finer hospital than Pontiac's newest institution, according to Dr. Crew.

The cost of the new building has been 54 cents a cubic foot and Dr. Crew told his hearers Monday night that the average cost of hospitals in the United States was from 75 cents to $1.00 a cubic foot.

With the addition of the new hospital, Pontiac's total hospital bed capacity is still approximately 100 beds below the minimum recommended by the American Hospital Association for a city of this size.

Dr. Crew in addressing this meeting remarked: "The first consideration for a patient is comfort and you have cared for that —ample light, ventilation, phone and radio service. The sound limitation is excellent. It is not the external noises that annoy patients, but the internal—doors banging, loud talking and the like. You have insulated against all that. I have inspected hospitals costing more than $1.00 a cubic foot and the workmanship and materials did not begin to compare with this, which has cost you 54 cents a cubic foot. You have spent wisely. A hospital is a medical center for a community and an educational center: your staff meetings, your internes in training and your nurses. You will soon wish

Dr. Donald F. Hoyt, Secretary Oakland County Medical Society

to establish a nurses' training school for a hospital of this size needs such a school. You have provision for an out-patient department and, when this is in operation, many can leave the hospital beds sooner and return for minor attention. Your city is to be congratulated on its accomplishment and I do not think that Detroit has anything better than you have here to offer in the way way of hospital facilities."

Dr. Christian, who was on the citizens planning committee for the hospital, presented to the city and the hospital, a library of some 300 volumes of medical journals and other books which he has collected. These books date from 1850 and are a consecutive record of medical practice and prog-

ress and will form a nucleus around which a hospital library may be built. Since the hospital was opened in January, many of the doctors have made substantial contributions which have been expended in the furnishing of the doctors' library. Many donations of current medical books have been made and the staff subscribed to 12 current scientific journals covering all specialties.

With the opening of the new hospital unit Pontiac has a hospital which is as modern as scientific planning and modern building methods can make it and an institution which is on the conditionally accredited list of the American College of Surgeons.

Hospital activities in Pontiac began May 14, 1901, when six ladies met and organized the Oakland County Hospital Association. At that time there was no place to care for the sick or injured except in the county jail.

In 1909 the first unit of the City Hospital was built, with a capacity of 15 beds; in 1914 an addition of 15 beds was made and in 1921 a second addition increased the capacity to 65 beds. In 1925 the hospital was placed in complete charge of the city.

When it became apparent a few years later that hospital expansion would be essential, voters approved a $100,000 bond issue as a start for the building fund and a citizens' committee set about studying the hospital needs of the city.

Need for greater facilities was shown in the increasing number of patients each year. The figures follow: 1924, 1,587; 1925, 1,861; 1926, 2,775; 1927, 2,845; 1928, 3,106; 1929, 3,327. The 1926 increase was experienced despite the opening of St. Joseph Mercy Hospital that year and the increase in following years was limited by the capacity of the hospital.

Hotel Heldenbrand

Voters of the city approved another bond issue of $450,000 in the spring of 1929 and in the fall of 1929 ground for the new building and for the new power plant building was broken. The new hospital cost about $610,000.

The new building is entirely fireproof and much thought has been given in its construction to reducing upkeep and care by proper building methods. Walls and ceilings are soundproof; long corridors are broken by

Hotel Waldron

Hotel Roosevelt

swinging doors; all corners and supporting platforms are rounded and coved for ease in cleaning.

Windows are of the steel casement variety and are designed to admit air without draft and to remain open during rain without admitting the rain.

The first, second and third floors are to be used for rooms and service quarters. The fourth floor will remain unfinished for the present. In the basement are located the kitchens, staff dining rooms, storage rooms, drug dispensaries, rooms for the eventual establishment of a clinic, and rooms for emergency treatment of accident cases. Ambulances and other cars bringing or taking away patients may drive into the building when weather is unfavorable. The treatment of emergency cases in the basement near the ambulance entrance will keep the noise and confusion from other patients.

The fifth floor of the new building is devoted to surgery, X-ray, physiotherapy and laboratory work and on this floor will be found the most modern equipment available and many unusual features planned for the safety and comfort of patients.

There are three operating rooms located on the north side of the building. They are finished in light green tile with green terrazzo floors. There is ample light, both artificial and natural, and a special interior glass panel protects the room from window drafts.

A number of unusual features have been built into the operating rooms of the surgical department. Oxygen, air and certain anesthetics will be supplied by pipes from a special tank room, and another pipe line will furnish a vacuum, replacing the former system of taking the tanks into the operating rooms. Oxygen from the central control room will also be piped to the nursery, where it may be used in the treatment of babies.

The terrazzo floors of the operating rooms are completely underlaid with wire, the metal joints soldered and the entire system grounded to prevent creation of static electricity.

Pontiac General Hospital

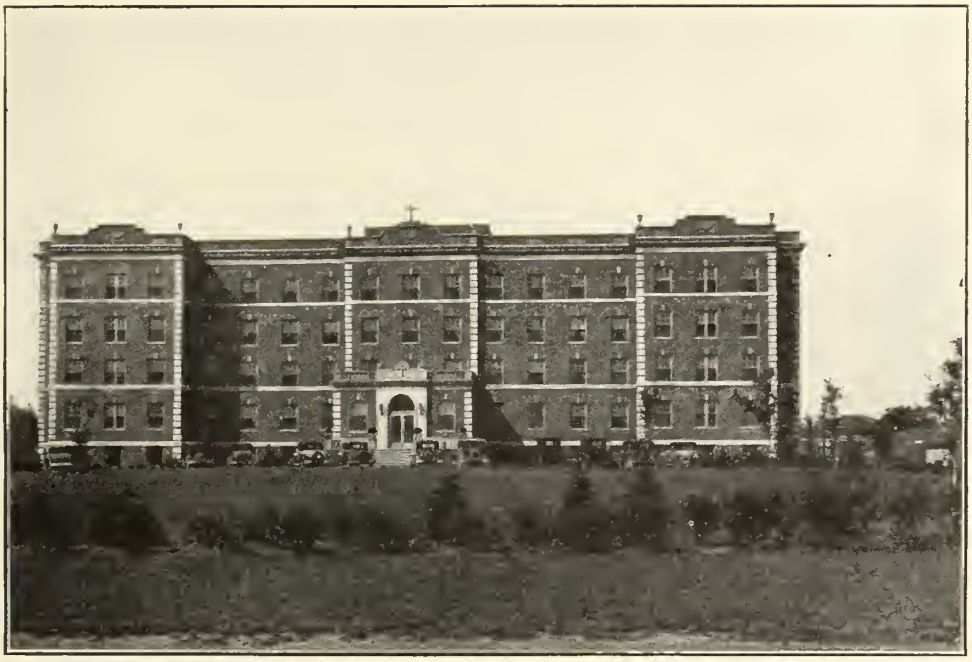
Between the operating rooms are special surgical sterilizing rooms in which all instruments and other equipment may be subjected to high steam pressure before and after use.

In addition to the special surgical sterilizing rooms, a large sterilizing room for use of the entire hospital is on the fifth floor. The large steam chamber here can accommodate mattresses or large bundles of bedding, as well as smaller articles. All table tops in this room, as throughout the building, are of monel metal.

provided to carry off fumes from the vault in case of an emergency.

Other rooms on the fifth floor include a physicians' lounge and locker doom, a waiting room for outpatients who may come for X-ray work, a nurses' station and utility rooms which include, in addition to the usual equipment, closets to heat blankets, drying cabinets and like accessories. A large sun room for physiotherapy is also on this floor.

Forced ventilation is provided in many rooms, such as the operating rooms and in



Saint Joseph Mercy Hospital

All X-ray work will be done on the top floor. Three rooms are devoted to fluoroscopic, radiographic and cystoscopic work and a special dark room for handling and developing plates is provided.

A feature of the X-ray department is a special fireproof vault for the storage of films. Use of recently conceived films removes much of the danger from fire or explosion but as an added precaution all X-ray films are stored in a concrete vault, protected by double steel fire doors. The vault is in an outside wall on the west side of the building. Vacuum enclosed lights and other devices guard against stray sparks and a sprinkler system will operate in case of fire. Special ventilators leading to the outside are

a section of the laboratory, to carry off fumes from the chemicals in use.

Electric clocks in the operating rooms are provided with second hands in order that an accurate check of time may be made.

Many features which might easily go unnoticed have been incorporated in the building, such as arm hooks on doors of the surgical department in order that all doors may be opened without touching them with the hands. Water faucets and drains may likewise be operated with the arms and knees, without the use of the hands.

The nursery is located on the east side of the new building on the third floor. Fond relatives and friends of new arrivals will discover that the nursery has ample window

space through which the babies may be viewed from the corridor but has only one door from the general passageway, and that one is to be rigidly guarded when the nursery is occupied. Visitors from the outside present a real danger to small babies through the possibility of bringing dirt and disease germs on their clothing, hospital officials declare. So the nursery is built to afford ample viewing but no meddling.

In the main nursery, bassinets will be provided for 25 babies and in the isolation section nine others can be accommodated. The isolation section is a part of the nursery in which each bassinet is in a separate compartment and is for children brought into the hospital from outside or who for any reason are to be isolated from the others. Between these two divisions is the work room for washing and caring for the babies. Special wall panels and interior windows protect the nursery from outside drafts while permitting plenty of ventilation.

The nursery is soundproof and any noise or crying cannot be heard in nearby rooms. The entire obstetrical department was furnished by the Oakland County Hospital association.

Convenience and comfort of patients have been given prime consideration in the new hospital. Every private room will have a telephone connection as well as a radio plug through which the patient may connect earphones with a central receiving set.

In private rooms there is a separate toilet room and a closet for clothes containing a locker for personal effects and valuables. The four-bed wards are provided with a locker room between each two wards in which the patients' clothes and belongings are safely stored.

The call system for nurses is an improvement over the old systems. In the system installed in the new hospital, a patient's call shows above the door, in the nurses' station, the service kitchen and the floor's utility room. Hence the patient's call will be visible at any point at which a nurse on duty is likely to be at work.

While the new building is entirely fireproof, a regulation city fire alarm is installed with a call box on each floor. Any alarm of fire will register in the hospital office and in the Central Fire Station and register not only the hospital but the floor from which the call comes.

The heating plant of the hospital is in a separate building behind the main structure. Here are located two high pressure steam boilers with a combined capacity of 504 horsepower. Only one is used at a time, the other being in reserve. All vital service equipment in a hospital must be duplicated for safety as interruption of heat and similar services might result seriously to many patients.

Water softeners and pumps and other mechanical equipment are located in the power plant, as is the hospital's own laundry department. Soiled linen is dropped from the various floors through glass lined clothes chutes so built that they may be cleaned with scalding water.

Most amazing among the mechanical features of the hospital is the automatic electric elevator. The elevator, said to be the first of its kind in the state, displays rare intelligence. When it is carrying a capacity load it will continue past waiting passengers and discharge its load and then, without further signal, return to the waiting passengers and pick them up in the order in which their calls were placed. An order placed with this modern elevator is carried out eventually, even though the machine has several previous orders to execute first.

ST. JOSEPH MERCY HOSPITAL

The campaign for the St. Joseph Mercy Hospital was begun in June, 1925. This campaign was the result of effort extending over a period of two or three years by local citizens with the coöperation of Dr. C. G. Darling of Ann Arbor. The project began to take form with a donation by Fred W. Warner of a site on which to build a hospital, when the Sisters of Mercy expressed a willingness to come to Pontiac.

Some time later the Sisters of Mercy of Dubuque, Iowa, outlined their plan by which they would construct the new hospital in Pontiac. This roused to action the service clubs in Pontiac and a campaign committee was appointed. The result of this effort was a subscription of $235,000 by Pontiac and neighboring citizens, which amount was more than matched by the Sisters for the construction of the hospital.

The hospital was formally dedicated May

9, 1927, which gave to Pontiac a substantial realization of civic effort and generosity on the part of the Sisters of Mercy. This building, as first opened, consisted of a four story brick structure with a capacity of 125 beds.

Entering the front door, one climbs a dozen or so steps to enter the lobby. From the lobby, on a line with the entrance, doors to the right and left lead to comfortably appointed reception rooms. To the left is a wide archway which connects with the general office of the hospital. Behind this office is the private office of Sister Carmelita, superintendent.

Passing through the lobby, one enters the hospital proper and the long central corridor, running in both directions, leads to various private rooms. Directly in front of the lobby entrance are the two automatic elevators, and beyond this is a sun parlor for patients. The first floor is almost entirely given to patients of the medical department with the exception of the house doctor's apartment, the chaplain's apartment, chaplain's dining room and the beautiful chapel.

On the second floor is located the surgical department, record room, doctors' offices, pharmacy, completely equipped; dressing room, sisters' quarters and laboratory. The entire surgical department is finished in a light green shade of tile walls and terrazzo floors. There are four large operating rooms for general surgery and one tonsillectomy operating room. Other rooms in the surgical department include the doctors' locker with lockers for 20 surgeons; and dressing rooms, and the doctors' scrub room. On this floor also is a central dressing room and a large record room. The laboratory is also located on this floor near the southern end and has every device known to modern medical science in prevalent hospital use. Complete bacteriological, serological and pathological tests can be made in this laboratory.

Pontiac State Hospital, Main Building

The third floor is devoted almost entirely to patients' rooms for the surgical department.

The fourth floor is the obstetrical department and here are located the nursery, mothers' room, obstetrical room, infants'

wash room and rooms for the obstetrical patients.

On the ground floor is the X-ray department, emergency operating room, metabolism room, cafeteria, undergraduate nurses' dining room, nurses' class room, sisters' dining room, diet kitchen and the general kitchen. The refrigeration rooms from where pipes lead to various departments is also located in the basement.

The boiler room is a completely separate building from the hospital proper, and is located to the rear of the building at the northern end. The complete heating plant and the hot water boilers are all located in this plant, which owing to its position away from the main building relieves the possibility of dust or dirt from the furnace rooms.

One of the most beautiful chapels in any of the hospitals operated by the Sisters of Mercy is the chapel in this hospital. The magnificence of this beautiful miniature church has been remarked upon by hundreds of visitors. The chapel is of Roman architecture, cream and gold walls and ceiling, and pews of mission, which creates a striking contrast with the alabaster hues of the altar. The altar is of white marble base with onyx columns. Above the mensa, or table of the altar, is a canopy supported by onyx columns containing a white marble crucifix, the background of which is set in gold mosaics. The door of the tabernacle or repository is of gold finish and on either side of the tabernacle are three large candlesticks called for by the ritual of the church.

The emergency department, with the emergency operating room, is located on the ground floor to the rear of the building with direct ambulance entrance to the road.

Opening of the general clinic at the St. Joseph Mercy Hospital was announced in January, 1931. Since last fall the hospital has conducted an obstetrical and children's clinic. The response of persons who need such service was so great that decision was reached to establish a general clinic. This clinic is equipped and maintained by the hospital, and professional service is donated by physicians. The clinic is intended to serve only persons who are unable to obtain medical aid in the usual manner.

With the growth of this clinic, it became quickly apparent that further hospital facilities were required. In spite of the increased hospital facilities afforded by the opening of the new Pontiac General Hospital, an addition to St. Joseph Mercy Hospital was begun. This is now in the process of construction. The addition is a brick structure behind the main building, joined to it by corridors on each floor. It will increase the bed capacity to 200 and provide a rearrangement of the present facilities. The X-ray department will be transferred to the new section, two floors of which were opened for occupancy June 15. The immense demand on the outpatient clinic has required additional space, which will now be expanded in the basement of the original structure.

PONTIAC STATE HOSPITAL

Nearly included within the city limits of Pontiac lies the Pontiac State Hospital, for the care and treatment of the insane. We cannot claim this as a strictly local institution, but because it is so nearly one of our pioneers and because its medical staff have always coöperated to the fullest extent with the local profession, we are proud to list it among our local hospitals.

This hospital was first opened to patients in 1878 under the title "Eastern Michigan Asylum." The name was changed in 1911 to the Pontiac State Hospital. Although many of the buildings are of ancient construction, through the diligent and efficient executive management of Doctor Christian, the hospital has remained up to date, and is taxed to capacity with its 1,800 patients.

Truly it is a city within itself, being housed on an area of 900 acres, employing 300 attendants and other employees. Its buildings are beautifully enclosed in a magnificent park surrounded by farms and gardens, the produce from which supplies the hospital. The State Hospital for years has boasted a celebrated herd of Holstein cattle. It has its own light and water system, and is virtually independent of the resources of the City of Pontiac.

The medical staff consists of the superintendent and five assistants. Dr. E. A. Christian became Assistant Physician at the State Hospital in 1882. In 1889 he was advanced to the position of Assistant Superintendent, and in 1894 he became Superintendent. His administration has been marked by broad human sympathy based upon a high degree of technical knowledge in the diagnosis and care of the insane. We are honored by the presence in our midst of such an outstanding physician.

OAKLAND COUNTY TUBERCULOSIS HOSPITAL

This institution, recently completed, is a model of its type in the country. It is beautifully located six miles west of Pontiac and accommodates 180 patients. A new children's unit for 85 additional patients is nearing completion. The Tuberculosis Hospital has its own staff, headed by Dr. Walter Werner, who is eminently qualified as a tuberculosis specialist. He has three medical assistants and one visiting dentist. Dr. E. J. O'Brien of Detroit serves as visiting surgeon.

We are justly proud of this institution, for we feel that results demonstrate that Oakland County has taken the most advanced step in the diagnosis and treatment of tuberculosis.

PONTIAC CITY HEALTH DEPARTMENT

A few facts concerning our Health Department, we believe, will be of interest. Headed by Dr. C. A. Neafie, the Health Department has established an enviable record, not only within the state, but nationally. Dr. Neafie has been a valued member of the Oakland County Medical Society, serving repeatedly in official capacity, and now represents this district as councilor in the State Society. He is widely known as a Health Commissioner, having served two years as President of the Michigan Public Health Association, two years as President of the Oakland County Public Health Association. He is a Fellow of the American Public Health Association and a member of the Society of American Bacteriologists, and of the International Association of Medical Health Officers.

With a population in 1930 of 65,000, Pontiac had a death rate of 8.1 per thousand. The average death rate in Pontiac, 1920-29 was 12.6 per thousand. The Bureau of Census reporting 81 of the larger cities of the country gives a general death rate of 11.9. In this list Flint in 1930 had a rate of 8.9, Detroit 9.2, Grand Rapids 10.1.

Causes of death in Pontiac for 1930 showed heart disease leading the list, followed by premature birth and other diseases of early infancy. Cancer ranked third and automobile fatalities held fourth place, with forty deaths, twenty-nine of which occurred from accidents outside of the city.

Our birth rate shows 35.3 per cent born in hospitals, as compared with the standard of 40 per cent set by the American Public Health Association. The infant mortality rate for 1930 was the lowest with one exception in our history. This improvement

Dr. Charles A. Neafie, Councillor

speaks for the improved attitude of the community, in which the prenatal care visits by the Public Health nurses played no small part. In ten years we have reduced the infant mortality rate 34 per cent. Continued stress in public health education exercised through the Health Department and its nurses has materially altered the records for communicable diseases. Public Health nurses carry on school visits in the Parochial Schools, in addition to their other duties, the public schools being handled through their own Health Department and nurses.

A limited amount of clinic work is done through the Pontiac Health Department which aims to serve as a clearing house for those needing medical or surgical attention.

Individuals needing treatment are referred to private physicians or to clinics for indigent care.

The Public Health Laboratory plays an important part in the Department's work, and is prepared to render laboratory tests to physicians in all communicable diseases. Not the least of the laboratory time is spent in control tests of water supply, milk supply and food inspection. Milk inspection is under the direction of two full time inspectors with a veterinarian in charge of this service. All milk supply in the County now comes from tuberculin tested herds. There are now three pasteurizing plants in the city and four Grade A raw milk farms distributing milk. Commenting on the laboratory records of tested milk, the Bureau of Dairying, Michigan Department of Agriculture, makes this statement, "Records such as this, which can no doubt be equalled by other Michigan cities, show the great improvement in the quality of city milk supplies which has been accomplished during the relatively short period of five years."

Sanitary inspection of stores and restaurants has been stressed, including a weights and measures survey. A veterinarian devotes his entire time to meat inspection.

Sanitation of the community is well controlled with an abundant pure water supply, and a modern sewage disposal plant. The Health Department is ever watchful that these facilities are properly maintained and seeks to eliminate all private supplies of questionable nature.

Sanitation in the playgrounds and bathing beaches is supervised, and the Health Department assists the City Engineering Department in bacteriological survey of neighboring lakes and streams.

So efficient has been our Health Department, we take pride in its comparison with that of any city, and we feel a personal pride in feeling that Dr. Neafie, its director, practices in his work the high ideals of the Medical Profession.

OAKLAND COUNTY HEALTH DEPARTMENT

Under its director, Dr. John Monroe, the Oakland County Health Department is rendering a valuable medical and community service. In this department are two assistant directors, Dr. V. K. Volk, who works out of the Pontiac office, and Dr. C. H. Benning, director for the Royal Oak district. In the Pontiac office are seven nurses, including one supervisor, one clinic nurse, and five public health and school nurses; four other assistants are employed in statistical work, collection service and bacteriological work. The Royal Oak office which serves the southern portion of the County has, besides its director, a quarantine officer, nurse and clerk.

Dr. Monroe believes that the function of his department is primarily one of education, and with that end in view he is giving special attention to a Health Education Program in the County schools. His nurses are carrying on health education in 95 rural schools and in 14 village schools not already supplied with a health service.

A tuberculosis and venereal clinic is maintained by this department and the usual service in matters of sanitation, dairy and food inspection. The County maintains a hospital for contagious diseases, which is under Dr. Monroe's direction. This hospital is of recent construction, thoroughly modern and especially designed for the care of contagious work. It has a bed capacity of 85 which has been stretched upon demand to 120. It is well served by graduate nurses and includes a thoroughly equipped laboratory which handles the work for the County Health Department.

In addition to the Contagious Hospital and Nurses Home, the County has built, on adjacent property, an infirmary which is equipped for minor medical service, which is supplied by the City Physicians. There is also a fine new Juvenile Home which provides most modern facilities for the housing of 100 children. These children are partially wards of the city who are given temporary shelter during the adjustment of home conditions, and also a group of delinquents sentenced to confinement through the Probate Court. This building was carefully planned to meet the medical requirements of such an institution. It contains special admission rooms for examination of children, fumigation of clothing and an isolation ward for quarantine. In addition to the regular staff, a graduate nurse is always on duty and a visiting physician is on call. The visiting physician makes examination of all admissions, handles vaccinations and supplies necessary medical attention.

LOCAL COMMITTEES 1931 ANNUAL SESSION

General Chairman.....Robert H. Baker

Centennial Committee.Frederick A. Baker, Chairman
Leon F. Cobb
John D. Monroe
Charles A. Neafie

Halls.....P. V. Wagley, Chairman
Ethan B. Cudney
John Lambie
F. D. German
Karl Zinn
Donald Hoyt

Hotels and Rooms....Clifford T. Ekelund, Chairman
Loren C. Sheffield
L. Warren Gately
E. Kyle Simpson

Entertainment.....Aaron D. Riker, Chairman
L. A. Farnham
Bertil T. Larson
Edward Christie
B. M. Mitchell

Publicity.....A. V. Murtha, Chairman
Chauncey Burke
Donald F. Hoyt
George A. Sherman
Charles A. Neafie

Registration.....Harold A. Furlong, Chairman
Robert Cooper
Harry A. Sibley
Frank A. Mercer
C. G. Darling, Jr.

GENERAL PROGRAM, 1931

Annual Session of the Michigan State Medical Society, Centennial Meeting of the Oakland County Medical Society

1. Sunday Evening, September 20, Public Memorial Service, Baptist Tabernacle.
2. Monday, September 21, Council Meetings, etc.
3. Monday, September 21, 6 P. M., Centennial Meeting of the Oakland County Medical Society. Dinner at 6 P. M. Invited Guests Officers and Council of the State Medical Society. Speaker, Clark D. Brooks of Detroit. Subject: History of the Oakland County Medical Society. (Place to be announced.)
4. Tuesday, September 22, morning and afternoon sessions of the House of Delegates.
5. Tuesday Evening, September 22, evening session of the House of Delegates to be followed by Smoker at the Bloomfield Hills Country Club; Hosts, Oakland County Medical Society; Guests, all attending the Convention. (Smoker will be informal, starting immediately after the evening session. Transportation will be provided.)
6. Wednesday, September 23, morning and afternoon, scientific section meetings.
7. Wednesday Evening, September 23, General Session, Baptist Tabernacle; Invocation by Rev. Bates G. Burt; Welcome by Dr. L. A. Farnham, President of the Oakland County Medical Society.
   President's address, Dr. Stone.
   Address by Invited Guest.
8. Thursday Morning, September 24, Section Meetings.
9. Thursday Afternoon, September 24, General Section Meeting, Presbyterian Church Auditorium.
10. Thursday Evening, September 24, closing meeting, Centennial Program. Chief speaker, Dr. Fishbein. (See evening program, Centennial.)
11. Special golf tournament, time and place to be announced.

WOMEN'S AUXILIARY PROGRAM

Mrs. Frank A. Mercer, President and General Chairman

Reception Committee,
Mrs. Raymond Tuck, Chairman
Mrs. D. G. Castell
Mrs. A. L. Brannock
Mrs. George A. Sherman
Mrs. A. V. Murtha
Mrs. Harry A. Sibley

Sightseeing Tour Committee,
Mrs. Robert H. Baker, Chairman
Mrs. J. E. Church
Mrs. Frederick A. Baker

Bridge Party Committee,
Mrs. B. M. Mitchell, Chairman
Mrs. Bertil T. Larson
Mrs. Hubert Heitch

Style Show Committee,
Mrs. Leon F. Cobb, Chairman
Mrs. Frank B. Gerls
Mrs. Ethan B. Cudney

General Meeting Luncheon Committee,
Mrs. Clifford T. Ekelund, Chairman
Mrs. Harold A. Furlong
Mrs. C. A. Neafie

Women's Golf Committee,
Mrs. A. D. Riker, Chairman
Mrs. Campbell Harvey
Mrs. Donald F. Hoyt

The Auxiliary is planning a special sightseeing trip to the Cranbrook School and estates in Bloomfield Hills.

An evening bridge party Tuesday evening, September 22.

Style show to be held during the convention.

General Meeting of the State Women's Auxiliary will be held Wednesday afternoon, September 23, including luncheon.

Special golfing privileges will be afforded women guests.

WRITE FOR

YOUR HOTEL

RESERVATIONS

Official Program

(Preliminary)

111th Annual Meeting--Michigan State Medical Society, Pontiac, Mich., September 22, 23 and 24, 1931

Celebrating the 100th Anniversary of the Oakland County Medical Society

OFFICIAL CALL

The Michigan State Medical Society will convene in annual session in Pontiac on Sept. 22, 23, 24, 1931. The provisions of the Constitution and By-Laws and the official program will govern the deliberations and business of this annual session.

R. C. Stone, *President*
B. R. Corbus, *Chairman Council*
H. J. Pyle, *Speaker*

Attest:
F. C. Warnshus, *Secretary*

DAILY SCHEDULE

Sept. 21—Council Session
4:00 P. M.—Hotel Waldron.

Sept. 22—Masonic Temple
10:00 A. M.—House of Delegates.
2:15 P. M.—House of Delegates.
7:30 P. M.—House of Delegates.
9:30 P. M.—Entertainment.

Sept. 23—
9:15 A. M.—Scientific Sections.
1:30 P. M.—Scientific Sections.
7:30 P. M.—General Session.

Sept. 24—
9:15 A. M.—Scientific Sections.
1:30 P. M.—Combined Section Meeting.
7:30 P. M.—General Session.

MEETING PLACES

Masonic Temple:
Registration and Information.
Commercial Exhibits.
Scientific Exhibits.
Dermatology and Syphilology.
Gynecology and Obstetrics.
Ophthalmology and Otology.
Pediatrics.

1st Baptist Church
Surgery.

1st Presbyterian Church
Medicine.
Combined Section Meeting.
Health Exhibits.

Tabernacle:
General Session—Wednesday.
General Session—Thursday.

HOTELS

Waldron—$3.00 to $8.00.
Officers and Delegates.
Heldenbrand—$2.00 to $9.00.
Roosevelt—$1.50 to $5.00.
Lochaven Country Club—$2.50 to $3.50.

Dr. Clifford T. Ekelund
906 Riker Bldg., Pontiac
Chairman of Committee on Hotels

HOUSE OF DELEGATES

Place: Masonic Temple.
Time: 10:00 A. M., September 22.
Speaker: H. J. Pyle, Grand Rapids.
Secretary: F. C. Warnshuis, Grand Rapids.

ORDER OF BUSINESS

1. Call to Order.
2. Report of Committee on Credentials.
3. Roll Call.
4. Minutes.
5. Speaker's Address—H. J. Pyle.
6. President's Address—R. C. Stone.
7. President-elect's address—C. F. Moll.
8. Annual Report of Council.
9. Appointment of Reference Committees.
   Business.
   Officers' Reports.
   Council Reports.
10. Election of Nominating Committee.
    Note: No two members from one Councilor District shall be elected to the Nominating Committee.
    Duties of Nominating Committee:
    (*a*) Act as Tellers.
    (*b*) Nominate A. M. A. Delegates to succeed: Carl F. Moll (term expired); alternate, W. J. Cassidy (term expired).
    (*c*) Place of next annual session.
11. Reports of Committees:
    (*a*) Civic and Industrial Relations.
    (*b*) Cancer Committee.
    (*c*) Delegates to A. M. A.
    (*d*) Legislative Committee.
12. Resolutions and New Business.
13. Recess.

SECOND SESSION
2:30 P. M.

14. Roll Call.
15. Report of Reference Committees
16. Unfinished Business.
17. New Business.

THIRD SESSION
7:30 P. M.

18. Roll Call.
19. Report of Reference Committees.
20. Elections:
    (a) President-elect
    (b) Report of Nominating Committee.
    (c) Place of Meeting.
    (d) A. M. A. Delegate and Alternate.
    (e) Councilors.
        Note: Nominations are made by delegates of each District:
        1. Fourth Dist., C. E. Boys (term expires).
        2. Fifth Dist., B. R. Corbus (term expires).
        3. Sixth Dist., Henry Cook (term expires).
    (f) Speaker.
    (g) Vice-Speaker.
21. Unfinished Business.
22. Adjournment.

FIRST GENERAL SESSION

Time: Wednesday, September 23, 7:30 P. M.
Place: Tabernacle.

1. Invocation.
2. Welcome Address: L. A. Farnham, M.D., President, Oakland County Medical Society.
3. Announcements.
4. In Memoriam:
   Memorial Record—The Secretary.
5. President's Annual Address—R. C. Stone, M.D., Battle Creek.
6. Address—Invited Guests.
7. Introduction of President-elect—Carl F. Moll, M.D., Flint.
8. Adjournment.

SECOND GENERAL SESSION

Time: Thursday, September 23, 7:30 P. M.
Place: Tabernacle.

1. Introduction—President Oakland County Medical Society.
2. Announcement of prizes for Public Competition.
3. Address: "Border Frontiers of Medicine"—Morris F. Fishbein, M.D., Chicago, Editor Journal American Medical Association.
4. Adjournment.

SCIENTIFIC SECTIONS

Section on General Medicine

Chairman: Milton R. Shaw, Lansing.
Secretary: I. W. Greene, Owosso.

MORNING SESSION

Wednesday, September 23—9:15 A. M.

1. Chairman's Address — "Agranulocytosis"—Case report—Dr. Milton R. Shaw, Lansing.
2. "The Treatment of Pernicious Anemia in the Light of Recent Discovery"—Dr. Cyrus Sturgis, Ann Arbor.

   Characteristics of pernicious anemia patients; achlorhydria and changes in the chemistry of gastric digestion; relation between the stomach defect and development of red blood cells; the nature of the action of liver therapy; the rationale of Ventriculin; its mechanism of action; effect on patients with pernicious anemia; change in red blood cell count; change in weight; subjective symptoms; dosage; practical points in the treatment of pernicious anemia.
3. "Neurological and Psychopathic Manifestations of Pernicious Anemia"—Dr. Charles Kiley, Cincinnati, Ohio.

   The almost unfailing regularity of the tracts involved when pernicious anemia is accompanied by cord lesions has been a source of interesting speculation. Lasting remissions in the anemia with heliotherapy have not been accompanied by arrest of these degenerations, proving that the nervous lesions are not the primary cause of anemia. That they are probably a result is attested by the occurrence of identical lesions in grave anemias not of the pernicious type. The recognition of pernicious anemia as a deficiency disease held in check by some unknown constituent of liver and the stomach mucosa seems to justify the conclusion that the cord lesions are secondary to the anemia, as the former are now seen to recede completely when the nature of the underlying blood disease is recognized early. The well established rule that tissue of the central nervous system cannot regenerate is borne out. The new forms of therapy give promise of prevention of the nervous lesions by arresting the primary disease before nerve damage has become irreparable.
4. "Secondary Anemias"—Dr. Charles H. Watkins, Mayo Clinic.

   The diagnosis of various types of secondary anemia will be discussed with respect to clinical manifestations and morphological features of the blood. In the light of the diagnosis, an evaluation of the efficacy of different methods of treatment will be attempted.
5. "New Aspects of Symptoms, Diagnosis and Treatment of the Leukemias"—Dr. Raphael Isaacs, Ann Arbor.

   The neoplastic nature of the disease; types of blood cells affected; leukemic and aleukemic states; aids in diagnosis; symptomatology, the cause of the symptoms and their relation to the peripheral blood picture; use of roengen rays, radium, arsenic, Lugol's solution, blood transfusion, iron, liver, liver extract, and Ventriculin; prognosis. (Lantern Slides.)

AFTERNOON SESSION

Wednesday, September 23—1:30 P. M.

1. "The Significance of Circulatory Disturbance in Certain Psychoses"—Drs. Theophil Klingman and H. S. Millett, Ann Arbor, Michigan.

   A survey of 200 case records of psychotic patients at the age of 40 and up revealed to the authors the fact that it was possible to group them into four organic syndromes as follows: (1) Endocrine, (2) Cardiovascular renal, (3) Pulmonary, (4) Gastro-intestinal. Both subjective symptoms are taken into consideration. The secondary group is discussed in this essay.
2. "The Present Status of Epidemic Encephalitis"—Drs. Fred P. Currier and David B. Davis, Grand Rapids.

   The paper presents a brief and concise review of the history and etiology of epidemic encephalitis. The authors will present a summary of one hundred and twenty-five cases of their own, including the results of, and experiences with, treatment. A moving picture demonstration of the unusual cases will occupy five minutes of the allotted time for this paper.
3. "Undulant Fever" (Brucelliasis)—Dr. Walter M. Simpson, Dayton, Ohio.

   The recognition of undulant fever as a common and widely distributed disease of man is largely a development of the past three years. Over 2,000 cases of undulant fever, occurring in every state of the Union, have been recorded by state health departments during the past two years. This paper will be based upon clinicopathologic study of 128 cases of undulant fever which have been encountered in Dayton and the surrounding communities.
4. "Treatment of Diabetic Acidosis and Coma"—Drs. D. P. Foster, Wm. L. Lowrie, F. MacDonald.

   The treatment of diabetic acidosis and coma demands emergency measures. The underlying principle is the reestablishment of normal body reactions by the use of liberal amounts of carbohydrates, insulin, and fluids. The detail and technic of applying this principle is

outlined. A chart to facilitate the immediate recording of all laboratory and clinical data is shown. Charts illustrating the results of treatment are shown.

Election of Chairman.

MORNING SESSION

Thursday, September 24—9:15 A. M.

JOINT MEETING OF MEDICAL AND DERMATOLOGICAL SECTIONS

1. "Visceral Syphilis" — Dr. Paul A. O'Leary, Mayo Clinic.
2. "Tularemia"—Dr. Walter M. Simpson, Dayton, Ohio.

   Tularemia probably occupies a unique position in medical history because of the rapidity with which it has evolved from the obscurity of a clinical curiosity to the prominence of an important public health problem. Six years ago tularemia was practically an unknown name in the medical literature; reports of about 15 cases had appeared up to that time. Tularemia has now been recognized in all but five of the states in the Union. The recognition of the widespread incidence of the disease in Soviet Russia, Japan, and Norway indicates that the disease is probably world-wide in its distribution. While wild rabbits constitute the most important reservoir of infection for other wild animals and man, new animal hosts and insect vectors have been discovered. This paper will be based upon a summary of recent investigations and a consideration of the Dayton experience with 88 cases.
3. "A Few Skin and Mucous Membrane Lesions of Interest to General Medicine"—Dr. G. H. Belote, Ann Arbor.

AFTERNOON SESSION

Thursday, September 24—1:30 P. M.

GENERAL SESSION OF ALL SECTIONS

1. Diagnosis of Early Tuberculosis"—Dr. J. A. Meyers, Minneapolis, Minnesota. —For Medical Section.

   The diagnosis of early tuberculosis does not necessarily consist in finding a demonstrable minimal lesion, as we have so often thought, but rather upon discovering evidence of the infection soon after it has occurred, and then watching for the first manifestations of the disease. This is best done by observing a group of children or adults who, on first examination, react negatively to the tuberculin test. By repeating the test at intervals of three to six months, one detects those who have been exposed and infected with tubercle bacilli very early in the course of the infection. By close observation of this recently infected group, one is very often able to detect very early tuberculosis lesions. These lesions frequently appear months and even years before the patient suffers from any symptoms of tuberculosis. In the past our education pertaining to early diagnosis has consisted largely of teaching the public the symptoms of tuberculosis. When symptoms appear, often we are not dealing with early tuberculosis. (Lantern slides and X-ray films will be used to demonstrate extremely early tuberculosis lesions as well as those observed over long periods of time, before symptoms appear.)

Section on Surgery

MORNING SESSION

Wednesday, September 23—9:15 A. M.

Chairman: Grover C. Penberthy, Detroit.
Secretary: George J. Curry, Flint.

1. Chairman's Address—Dr. Grover C. Penberthy, Detroit.
2. "Surgical Lesions of the Large Bowel" —Dr. Fred W. Rankin, Rochester, Minnesota.
3. "Primary Ileostomy in the Treatment of Generalized Peritonitis"—Dr. E. C. Baumgarten, Detroit.
4. "Carcinoma of the Stomach with Special Reference to Early Diagnosis and Operability"—Dr. Henry K. Ransom, Ann Arbor.

AFTERNOON SESSION

September 23—1:30 P. M.

5. "Poliomyelitis"—Dr. F. C. Kidner, Detroit.
6. "The Conservative Operative Treatment of Hydronephrosis"—Dr. John K. Ormond, Detroit.
7. "Tumors and Their Behavior"—Dr. Henry J. Vanden Berg, Grand Rapids.

MORNING SESSION

Thursday, September 24—9:15 A. M.

Election of Chairman.

8. "Studies on Fractures of the Neck of the Femur"—Dr. D. B. Phemister, Chicago, Ill.
9. Title not announced to date—Dr. Dean Lewis, Baltimore, Maryland.
10. "Diseases of the Spine Simulating Pott's Disease and Compression Fractures"—Dr. Lawrence Reynolds, Detroit.
11. "Observations of Twenty Years in Brain and Spinal Cord Surgery"—Dr. Wm. J. Cassidy, Detroit.

AFTERNOON SESSION

Thursday, September 24—1:30 P. M.

Symposium—Surgical Representative

12. "Surgical Measures in Pulmonary Tuberculosis"—Dr. John Alexander, Ann Arbor.

Section on Obstetrics and Gynecology

Chairman: Harry M. Nelson, Detroit.
Secretary: Harold A. Furlong, Pontiac.

MORNING SESSION

Wednesday, September 23—9:15 A. M.

Gynecology

1. Subject to be announced—Dr. Arthur H. Curtis, Chicago, Ill.
2. "Some Urological Accidents Following Pelvic Operations"—Dr. Harold Morris, Detroit.
3. "Management of Sterility Studies"—Dr. Clarence Toshach, Saginaw.
4. "Present Trends to Control Impregna-

tion"—Dr. Harrison S. Collisi, Grand Rapids.

5. Subject to be announced—Dr. Charles F. DuBois, Alma.

Obstetrics

1. Subject to be announced—Dr. Fred L. Adair, Chicago, Ill.
2. "The Saving of the Perineum During Delivery"—Dr. J. E. Cooper, Battle Creek.
3. "Treatment of Asphyxia Neonatorum"—Dr. Harold Henderson, Detroit.
4. "Indications for Cesarean"—Dr. Roger Siddall, Detroit.
5. Department of Obstetrics and Gynecology—University Hospital, Ann Arbor.

MORNING SESSION

Thursday, September 24—9:15 A. M.

Election of Chairman.

1. "Conservative Treatment in Toxemias of Pregnancy"—Dr. Robert Kennedy, Detroit.
2. "Acute Pelvic Inflammatory Disease"—Dr. I. S. Gellert, Detroit.
3. "Post Mortem Cesarean Section with Survey of the Literature"—Dr. Alexander Campbell, Grand Rapids.
4. "Actinomycosis of Fallopian Tubes—report of a case"—Dr. Charles E. Boys, Kalamazoo.
5. "Treatment of Trichomonas Vaginalis Vaginitis"—Dr. Howard Cummings, Ann Arbor.
6. Department of Obstetrics and Gynecology—University Hospital, Ann Arbor.

AFTERNOON SESSION

Thursday, September 24—1:30 P. M.

Symposium on Tuberculosis

Section on Pediatrics

Chairman: John P. Parsons, Ann Arbor.
Secretary: Campbell Harvey, Pontiac.

MORNING SESSION

Wednesday, September 23—9:15 A. M.

1. "A Case of Congenital Ectodermal Dysplasia"—Dr. A. M. Hill, Grand Rapids.
   A case demonstrating unusual defects which are probably of a hereditary nature will be reported. These defects include, hair, teeth, and skin, all of which are derived from the ectoderm of embryonic life.
   The paper will include a short review of the literature and a discussion of the etiology, symptoms and diagnosis of the "Anhidrotic" type of ectodermal dysplasia.
2. "Correlation of Clinical, Roentgenological, and Autopsy Findings in Childhood Tuberculosis"—Dr. John A. Bigler, Clinical Assistant in Pediatrics, Northwestern University, Chicago, Ill.
   Roentgenograms of the chest are practically essential in the diagnosis of tuberculosis in children. This is true because clinical and physical manifestations are often absent or very questionable. As tuberculosis in childhood differs from that found in the adult, the same criterion in X-ray interpretation cannot be used. This report deals with the interpretation of chest roentgenograms in childhood tuberculosis based and checked upon observations at necropsy.
   Discussion—Dr. Fred Hodges, Professor of Roentgenology, University of Michigan, Ann Arbor.
3. "Artificial Immunity to Tuberculosis, with Special Reference to the Bacillus of Calmette and Guerin (B.C.G.)"—Dr. Malcolm H. Soule, Associate Professor of Bacteriology, University of Michigan, Ann Arbor.
   The data of many investigators in several countries indicate confirmation of the work and contentions of Calmette that the feeding of the living bacillus of Calmette and Guerin to the newborn produces an active immunity to tuberculosis and the bacillus when properly cultured is avirulent.
   Discussion—Dr. Daniel Budson, Department of Pediatrics, University of Michigan, Ann Arbor.
4. "Skin Temperature"—Dr. Walter G. Maddock, Instructor, Department of Surgery, University of Michigan, Ann Arbor.
   A brief résumé of skin temperature findings with variations under normal and abnormal conditions will be presented.

AFTERNOON SESSION

Wednesday, September 23—1:30 P. M.

1. "Acute Appendicitis in Infancy"—Dr. Rockwell Kempton, Saginaw.
   The unexpected finding at autopsy of a gangrenous appendix in an infant aged eighteen months who had for a period of nine days been suffering from nausea, vomiting and diarrhea emphasizes the difficulty of diagnosis of acute appendicitis during the first two year of life. While statistics would seem to prove the rarity of the condition during this period, it is well to consider that the diagnosis is probably seldom made, and then only in the more typical cases.
2. "The Intracranial Tumors of Childhood"—Dr. Loyal Davis, Associate Professor of Surgery, Northwestern University, Chicago, Ill.
   The various intracranial tumors which are most common in childhood include the medulloblastomas of the fourth ventricle, cerebellar astrocytomas and suprasellar cysts. These tumors are discussed from the standpoint of their early symptomatology and the results of surgical treatment.
3. "Pachymeningitis Hemorrhagica Interna in Infants"—Dr. Edgar A. Kahn, Assistant Professor of Surgery, University of Michigan, Ann Arbor.
   This condition is more common than is generally supposed. During the past four years ten cases have been discovered which were sent in as hopeless hydrocephalics. The differential diagnosis, prognosis and therapy will be discussed.
4. "A New Method for the Study of Edema"—Dr. F. H. Lashmet, Instructor, Department of Internal Medicine, University of Michigan, Ann Arbor.

Heretofore most studies of edema have been based upon changes in body weight correlated with free fluid intake and urine output. The fallacy of this method is pointed out and a more accurate method based on complete water exchange described.

MORNING SESSION

Thursday, September 24—9:15 A. M.

Election of Section Officers.

1. "A Review of the Literature on Epidemic Poliomyelitis"—Dr. Dorman E. Lichty, Instructor, Department of Pediatrics, University of Michigan, Ann Arbor.
2. "Epidemic Poliomyelitis" (exact title to be announced)—Dr. J. P. Leake, Senior Surgeon, U. S. Public Health Service, Washington, D. C.
3. "Clinical Aspects of Poliomyelitis"—Dr. John Gordon, Medical Director Division of Communicable Diseases, Herman Kiefer Hospital, Detroit.

Clinical knowledge has progressed to such a state that physicians can no longer be content with a diagnosis of infantile paralysis. Well developed principles permit diagnosis of poliomyelitis before paralysis. The clinical forms of the fully developed infection depend upon focal localization in the central nervous system. Differentiation from other common infections is possible by clinical methods and readily confirmed by examination of the cerebrospinal fluid. Recent developments in the management of the disease contribute toward a lower fatality rate and lessened permanent disability.

AFTERNOON SESSION

September 24—1:30 P. M.

Symposium on Tuberculosis

(To be presented before the combined sections)

Speaker for Pediatric Section:

"Tuberculosis in Children and Adolescents"—Dr. Henry D. Chadwick, Tuberculosis Controller, Department of Health, City of Detroit.

Tuberculosis should be considered one of the serious diseases of childhood. It causes more deaths in persons under twenty than any other communicable disease. There are three distinct periods in the life of a child when there is a marked difference in their resistance to tuberculosis as shown by the death rate. These periods are under five, five to ten, and ten to twenty. Early diagnosis is dependent upon the use of the tuberculin test and roentgenogram of the chest. An analysis of 110 cases of the adult type of tuberculosis found in school children will be given.

Dermatology and Syphilology

WEDNESDAY, SEPTEMBER 23

9:15-11:30

Clinic of Common Skin Diseases.

Demonstrating diagnostic points.

In charge of Drs. Jamieson, Bartholomew, Van Rhee, Troxell, Hyde and Saunders.

1:15 P. M.

Chairman's Address—Dr. Cyril K. Valade, Detroit.

Election of Officers.

Epidermophytosis of Hands and Feet—Dr. Arthur E. Schiller, Detroit.

Prenatal and Congenital Syphilis (Prevention and Treatment)—Dr. W. C. Wander, Detroit.

Cutaneous Syphilis—Dr. Paul A. O'Leary, Mayo Clinic.

THURSDAY, SEPTEMBER 24

Joint Session of Medical and Dermatological Sections

9:00 A. M.

Visceral Syphilis—Dr. Paul A. O'Leary, Mayo Clinic.

Tularemia—Dr. W. M. Simpson, Dayton, Ohio.

A Few Skin and Mucous Membrane Lesions of Interest to General Medicine—Dr. G. H. Belote, Ann Arbor.

1:30 P. M.

Tuberculosis by All Sections.

Tuberculosis of the Skin—Dr. H. L. Keim, Detroit.

GENERAL INFORMATION

1. *Hotels:* Write to hotel managers or to Dr. Eklund for your hotel reservations. Delegates are urged to write to Hotel Waldron.
   Detroit hotels will not be available. The American Legion has every available Detroit reservation.
2. *Golf:* Guest cards will be available for local country clubs.
3. *Entertainment:* Oakland County Medical Society will entertain officers and delegates at the Bloomfield Country Club at 9:30 P. M., Tuesday, Sept. 22. Ladies' entertainment will be provided for by the Woman's Auxiliary.
4. *Health Exhibits:* The local society is sponsoring public health exhibits and talks in the First Presbyterian Church.
5. *Commercial Exhibits:* These will be placed in Masonic Temple.
   Scientific Exhibits: Be sure and see these in the Masonic Temple.
   Registration: Registration Bureau will be located in the Masonic Temple. It will be open from 8:30 A. M. to 6:00 P. M. daily.
   Combined Section Meetings: All the Scientific Sections will combine in a general meeting at 1:30 P. M. on Thursday, Sept. 24. See general program for list of speakers who will discuss tuberculosis.

Centennial Meeting: The Oakland County Medical Society will celebrate its organizational centennial in the Tabernacle on Thursday evening, Sept. 24, at 7:30 P. M. It will be a public meeting. The main address will be by Dr. Morris Fishbein, Editor of the Journal of the American Medical Association. The local society will award three hundred dollars in prizes. Plan to stay for this celebration.

Section on Ophthalmology and Otolaryngology

Chairman: Carl F. Snapp, Grand Rapids.
Secretary: H. O. Westervelt, Benton Harbor.

MORNING SESSION

Wednesday, September 23—9:15 A. M.

1. Chairman's Remarks.
2. "Non-specific Protein Therapy in Ophthalmology"—Dr. W. Edward McGarvey, Jackson.
3. Subject to be announced—Dr. A. C. Furstenberg, Ann Arbor.
4. "Tears at the Ora Serrata. Their Significance and Treatment"—Dr. Peter C. Kronfeld, Chicago, Ill.
   Discussion: Dr. George Slocum.
5. Some subject of Plastic Surgery—Dr. James T. Mills, Grand Rapids.

NOON LUNCHEON

12:00 O'clock

Round Table Conference: Dr. Peter C. Kronfeld of Chicago. Discussion of Eye Problems of Everyday Practise.

Written Questions for discussion must be handed in early for his consideration.

N.B.: MAKE YOUR RESERVATIONS FOR LUNCHEON EARLY.

MORNING SESSION

Thursday, September 24—9:15 A. M.

1. "Bilateral Optic Neuritis and Electric Retinitis"—Report of two cases—Dr. Ray W. Hughes, Detroit.
2. "Complications of Mastoiditis"—Report of cases—Dr. A. P. Wilkinson, Detroit.
3. "Chalazion Complicated by Orbital Abscess"—Case report—Dr. A. R. McKinney, Saginaw.
4. "Diseases of the Salivary Glands"—Dr. Wm. V. Mullin, Cleveland.
5. "Malignant Leukopenia"—Report of cases—Dr. R. N. Sherman, Bay City.
6. Eye—Dr. Ralph H. Pino, Detroit.
7. Nose or Throat—Case report—Dr. R. E. Mercer, Detroit.
8. Ear, Nose, Throat or Eye—Case report—Dr. Audrey O. Brown, Detroit.

LUNCHEON

12:00 O'clock

Election of Chairman.

Round Table Discussion: Dr. R. Bishop Canfield of Ann Arbor. Discussion of Ear, Nose and Throat Problems of Everyday Practise.

EVERYONE IS INVITED TO HAND IN WRITTEN QUESTIONS EARLY FOR DR. CANFIELD'S CONSIDERATION.

N.B.: MAKE YOUR LUNCHEON RESERVATIONS EARLY.

AFTERNOON SESSION

Thursday, September 24—1:30 P. M.

Symposium on Tuberculosis. Dr. William V. Mullin will speak on Tuberculosis of the Nose, Throat and Larynx.

All the Sections will be represented in this symposium by their guest speakers.

MONTHLY COMMENT

This issue contains the preliminary program for the 111th Annual Meeting in Pontiac, Sept. 22, 23, 24. The September issue will contain the final program, list of delegates and the reports of standing committees.

Oakland County Medical Society, our hosts, assures us that a cordial welcome awaits. At this session they celebrate their 100th organizational birthday. Several new interesting and educational features have been prepared that will add much to this annual session. Note the dates, plan to attend, write for your hotel reservations.

* * *

Members are requested to refer to the July issue imparting the discussions of the conference of the council with several welfare agencies. In conformity with the council's instructions a synopsis has been sent to the officers of county societies with a request for comment and criticisms. A questionnaire will be sent to members in those counties in which these agencies are operating. The council is desirous of re-

ceiving these field views in order that a report may be formulated and rendered to the House of Delegates. Please send your replies, at an early date, to the State Secretary.

* * *

Your county society officers, your Councilor and your state officers welcome your inquiries. Every available assistance is at your command. Utilize it for it is a benefit of membership.

* * *

Frequent inquiries are received as to whether an osteopath or a chiropractor can do this or that or render certain forms of service. The law definitely defines their limitations of practice. Many, yes the majority, overstep these limitations and so violate the laws. There is but one group charged with enforcement authority—the county prosecuting attorney. For enforcement in your county see your county prosecutor and insist that he discharge this obligation. Unfortunately no other agency or body has the power or the funds to institute prosecutions. Bills conveying that power were defeated by the last legislature.

* * *

This issue contains the program for the annual meeting of the Upper Peninsular Medical Society. Our upper peninsular members cordially invite all state society members to attend. You will find them to be royal hosts.

* * *

In these days with attending unrest one may hear almost any kind of a statement or rumor. Most, if not all, are without fact or justification. Before giving credence or being misled secure authoritative facts and information from official sources. Do not be led astray by idle rumor or gossip.

INTERESTING ITEMS FROM NEW YORK STATE

We append some of the interesting items from the annual session of the New York State Society. They are prophetic as well as informative.

RETIREMENT FUND FOR PHYSICIANS

Dr. Patterson of New York: Presented the following resolution:

Whereas, no provision at present exists in the Medical Society of the State of New York for retirement stipends for physicians in the State of New York; and

Whereas, in certain other professions such provision has been successfully made; and

Whereas, it would seem advisable that the delegates here assembled should take appropriate action to this end,

Be it therefore resolved, that the Medical Society of the State of New York through its delegates here assembled authorize the appointment of a Committee of not fewer than five to study ways and means of establishing a Retirement Fund for the benefit of the members of the Medical Society of the State of New York; and

Be it further resolved, that said committee be prepared to make a report at the next regular meeting of this body.

The Speaker: Referred to Reference Committee on New Business C. (Section 99.)

CERTIFICATION OF SPECIALISTS

Dr. Trick of Erie: Presented the following resolution:

The Committee on the Certification of Specialists was appointed to carry out the recommendation adopted by this House in June of 1929.

The solution of this problem is a very difficult one and has been approached with the greatest caution.

At a meeting held in Albany in January, 1931, consisting of representatives from the Department of Education, Board of Medical Examiners, the Deans of the Medical Shcools, the New York Academy of Medicine, and the Medical Society of the State of New York, the following resolution was adopted:

"That the Department of Education in conference with the Medical Society of the State of New York proceed to formulate plans for the preliminary education of specialists."

Shortly after the meeting a resolution to be presented to the House of Delegates of the American Medical Association was published in the bulletin of the American Medical Association. The principal point of the said resolution reads as follows:

"Resolved that the Speaker of the House of Delegates shall appoint by and with the advice of the President and the Board of Trustees a Commission on qualifications for specialists composed of nine members; that the said Commission shall undertake to define the qualifications that should be required of the individual physician who desires to limit his practice to any special field and to be known as a specialist, and that in arriving at such definition the Commission on Qualifications for Specialists should give consideration to questions of education, training, and clinical experience."

That this Committee be enlarged as may seem necessary or desirable; that an appropriation for the expenses of this Committee be included in the budget; that this Committee continue to carry out the intent of the resolution adopted in January in conformity with the work of the Commission of the American Medical Association, if it should be appointed.

We would recommend that a special committee on the certification of specialists be created.

MINIMUM WAGE FOR PHYSICIANS

The following resolution introduced by Dr. Julius Ferber of New York was read by Dr. Messing of New York.

Whereas, the Medical Society of the County of New York after considerable study of the exploitation of physicians by municipal and state departments as well as by lay corporations saw fit to endorse the movement, to demand the five dollar minimum wage per hour for physicians employed on part time, and

Whereas, because the economic distress now prevailing generally forces many physicians to accept a part time position at lesser rate,

Therefore, be it resolved, that the House of Delegates of the Medical Society of the State of New York record its opinion in favor of a minimum wage of five dollars per hour for physicians working upon a part time basis, but

Be it further resolved, that a five dollar per hour minimum charge shall not be so construed as a demand for an increase in salary for medical men employed in regular positions under the Civil Service Laws, nor for physicians holding regular departmental positions which after a term of service entitle the holder thereof to a pension.

PAY CLINICS

Dr. Subkis, New York: Presented the following resolution:

Whereas, there is an increasing tendency on the part of Dispensaries and the Out-Patient Departments of Hospitals and Medical Centers to conduct Pay Clinics, and

Whereas, these Clinics diagnose and treat patients outside of the Provision of the New York State Dispensary Law;

Therefore, be it resolved, that the Committee on Legislation initiate legislation at the next session of the New York State Legislature to the effect of preventing Pay Clinics from being operated under dispensary laws.

MEDICAL PRACTICE BY CORPORATIONS

Dr. Ferber of New York: Presented the following resolution:

Whereas, the Judicial Council of the American Medical Association in its report as published in the American Medical Association Bulletin as of April, 1931, regards the decision of Judge Samuel R. Blake of the Superior Court of the State of California, in and for the County of Los Angeles, in a case of Granville McGowen, plaintiff, vs. Medical Service Corporation, a corporation, defendant, as being of the greatest importance at a time when commercial organizations established for profit are engaging in the sale of medical service in a manner that may be detrimental to the public good and opposed to the progress of scientific medicine,

Therefore, be it resolved, that the House of Delegates of the Medical Society of the State of New York instruct its counsel to bring suit against one of the medical agencies engaging as a corporation, in the practice of medicine; that this suit be pressed for a decision upon two fundamental questions: (1) Can a corporation practice medicine? (2) Is the manner and method of the defendant corporation such as to constitute the practice of medicine?

OPTOMETRY LAW

Dr. Leone of Erie: Presented the following:

Resolved, that the Secretary of the State Medical Society obtain an opinion from the Legal Counsel for the Society on the constitutionality of the amendment to the optometry law enacted in 1931.

RESTRAINT ON COUNTY SOCIETIES

Dr. Garen of Cattaraugus: Presented the following resolution:

Resolved, that it is the sentiment of the House of Delegates of the Medical Society of the State of New York that its members or committees shall not be permitted to engage in the promotion of a medical project, state or national, requiring legislation until such project and the proposed legislation thereon shall have been submitted for consideration to the House of Delegates and approved by a two-thirds vote.

ACCEPTANCE OF SUBSIDIES

Dr. Garen also introduced the following resolution:

Resolved, that no member of this Society or committee of this Society shall be permitted to accept funds, grants, donations or any form of financial assistance either directly or indirectly from personal or lay sources for the promotion of medical projects requiring legislation without permission from the House of Delegates by a two-thirds vote.

MEDICAL PRACTICE BY CORPORATIONS

Dr. Colie: Resolution introduced by Dr. Julius Ferber (Sec. 19): Whereas the Judicial Counsel of the Medical Association in its report as published in the American Association bulletin, as of April, 1931, regards the decision of Judge Samuel R. Blake of the Superior Court of the State of California in and for the County of Los Angeles, in the case of Granville McGowen, plaintiff, vs. Medical Service Corp., a corporation, defendant, as being of the greatest importance at a time when commercial organizations established for profit are engaged in the sale of medical service, in the matter that may be detrimental to the public good and opposed to the progress of scientific medicine, therefore be it

Resolved, that the House of Delegates of the Medical Society of the State of New York instruct its counsel to bring suit against one of the medical agencies engaging as a corporation in the practice of medicine; that this suit be pressed for a decision upon two fundamental questions:

1. Can a corporation practice medicine?
2. Is the manner and method of the defendant corporation such as to constitute the practice and method recommended for adoption?

The Speaker: It may be a departure from the usual order, but the Speaker wishes to ask a question. What is the cost of such a thing going to be?

Dr. Rooney: I was just about to arise to ask the Speaker to request the Counsel of the Society to tell us just what a litigation of this sort means before it is terminated by a decision from the Court of Appeals in the State of New York. It is a very expensive proposition and how it is going to affect us in the State of New York we cannot personally see. So far as I know, the Court of Appeals decisions in this state have uniformly held—and so far as I know still hold—a corporation can neither practice law nor medicine. I should like to request the Speaker to ask Counsel whether I am wrong in that contention and whether a suit of that sort is not necessary.

Mr. Brosnan: There is no question, gentlemen, under the decisions of the Court, a corporation can neither practice medicine nor law. I would hesitate to advise the adoption of this resolution since a proceeding of this kind would be extremely expensive for one thing, and it may result in actions against this Society for another. I think it is a situation we ought to go slow in. I take it the resolution contemplates a criminal action against these corporations, on the ground they are practicing medicine illegally. It would mean the employment of investigators and the collection of evidence and the possibility of throwing the plaintiff, which would be this society, into some sort of libel action, or action for malicious prosecution, false arrest, or something of that kind.

I think it is a situation we ought to think over very carefully before any action is taken.

I think this very resolution came before this body last year, but I believe it was withdrawn. I do not think this lawsuit is necessary.

Dr. Ferber: I fully appreciate the novelty as well as the magnitude of the undertaking advocated in this resolution, but I also know that this is not a

thunderstorm from a clear sky. For the last four to five years, medical men and women have discussed the advisability of initiating a test case in the courts of this state and to determine—first—whether corporations should be allowed to continue the practice of medicine under our Medical Practice Act, and—secondly—what constitutes medical practice by a corporation.

Several years ago it was pointed out, and rightly so, that the Medical Society of the State of New York could not possibly start such action because it did not have the necessary funds to defray the expense incidental to such litigation. Today, we find that Providence has provided for this necessity through the agency of our capable Treasurer, Dr. Charles Gordon Heyd, during whose term of office the treasury of our State Society has managed to accumulate sufficient funds to enable it to protect the legitimate rights of the medical profession.

There are those amongst us who claim that the bringing of such suit by our State Society is not practical because, if we lose, the Defendant Corporation would bring suit for damages amounting to many thousands of dollars. Regardless of the merits of this objection, I am at liberty to state that Providence has also provided for this emergency in the persons of self-sacrificing physicians who are willing to act as plaintiffs and bring suit against a corporation practicing medicine. Unfortunately, they have not the means to finance such action, but with encouragement from the profession they are ready to give their name, time and effort to the testing in the courts of the right of corporations to practice in this Empire State.

As to the legal side of the question, the decision rendered by the Superior Court of California, in and for the County of Los Angeles, in the case of Granville McGowen, plaintiff, vs. Medical Service Corporation, a corporation, defendant, sets ample precedent and gives us a real clue as to the sentiments of judiciary with regard to a corporation indulging in the practice of medicine. The decision handed down by the eminent jurist, Samuel R. Blake, contains in my opinion one of the most noble expressions of the ideal of medical practice that has ever been the privilege of any human being to utter. He states: "The right to practice medicine attaches to the individual and dies with him and it cannot be made a business sheltered under the cloak of corporations having marketable shares descendable under the law of inheritance." In other words, the right to practice medicine is part and parcel of the individual, not to be bartered, commercialized or commissioned.

We must consider, of course, that the adoption of this resolution means action. Unlike other resolutions which are merely an expression of opinion—kept on our minutes for future reference—the adoption of this resolution implies action, responsibility and expense. But, who can point an accusing finger at our State Society that it ever lacked courage and initiative when the medical profession was in need of its influence and endeavor? We have been accused of being conservative, but even our accusers admit that our conservatism has been tempered by deliberation. We were never remiss in our duties to the medical profession, but rather surveyed the field and studied the situation in order not to be carried away by the enthusiastic fancy of radicalism.

Were we now to stand aloof and watch for developments outside of our sphere of activity and influence to bring about the occasion of corporate medicine, we may be adjudged simpletons not knowing how to protect a rare privilege. Nay! We may even be adjudged as indifferent to the degrading influence of corporate medicine on medical practice.

I am confident that each and every one of you assembled here today fully evaluates the significance of this resolution and that you will vote for its adoption.

Dr. Wightman: We have here tonight a man from the Department of Education, Dr. Rypins, who, I think, will speak very briefly and illustrate this thing for us.

He is not a member of this Assembly, but if it is the pleasure of this House to hear from him for two or three minutes, I think he will favor us with his remarks.

The Speaker: Is there any objection on the part of the House of Delegates to hearing Dr. Rypins?

The House granted Dr. Rypins the privilege of the floor.

Dr. Rypins: I think Dr. Rooney has expressed the situation as well as I can. The question as to whether or not a corporation can practice medicine in New York State has been decided on numerous occasions, and within the last three or four years the Attorney General, with the coöperation of the Department of Education, has dissolved several corporations who had been guilty of practicing medicine without licenses.

I do not know what particular corporations you are talking about, but if there is any one who has a particular corporation in mind, the procedure is to refer the matter to me with the facts, and we will attempt to find out whether or not there is a violation of law.

It is not necessary to get a decision of the Court of Appeals. The Court of Appeals has already ruled on that in this state.

You must bear in mind, however, that there are corporations chartered under the Public Welfare Law, such a charitable clinics, and although they are incorporated, they are not incorporated for profit and they cannot be stopped under our law from practicing medicine.

I think most of the complaints you have in mind will have to be brought before the Department of Public Welfare. If, however, you have in mind other corporations for profit which are in your opinion practicing medicine, the proper procedure is to refer all the facts to me with a request for an investigation and prosecution, if the facts warrant it.

Dr. Rooney: I move that the resolution lie on the table.

Motion seconded and carried.

INDUSTRIAL COMMITTEE

The Civic and Industrial Relations Committee of the Michigan State Medical Society calls attention to the Health and Accident Insurance Resolutions which were presented to the House of Delegates of the American Medical Association at its annual meeting in Philadelphia. The resolutions were introduced by Dr. J. D. Brook, the Michigan delegate, and after being discussed by the Reference Committee they were referred to the Bureau of Medical Economics.

This newly created Bureau of the American Medical Association, of which Dr. R. G. Leland is Director, has been instructed to make a thorough study of the matter and report at the next Annual Meeting of the Association in New Orleans in 1932.

Dr. Leland has conferred with the Chairman of the Civic and Industrial Relations Committee and is making every effort to begin an immediate and comprehensive study of the question. He has obtained from the Michigan State Medical Society data and information which have been collected to date.

Refer to the June 20 issue of the American Medical Association Journal under "Proceedings of the Philadelphia Session, House of Delegates," pages

2109 to 2129, for futher information. Until the American Medical Association has acted upon the question, the Michigan resolutions remain in force, as far as State Society members are concerned.

Harrison S. Collisi, M.D., *Chairman.*

POST GRADUATE CONFERENCE

A post graduate conference of the Michigan State Medical Society and the Department of Post Graduate Medicine of the University of Michigan was held at the Wigwam, Dowagiac, Michigan, Thursday, June 25, 1931. The program included the following papers:

Prophylaxis and Care of Communicable Diseases, with special reference to Scarlet Fever, Diphtheria, and Meningitis—Dr. John E. Gordon, Detroit.

Essentials in the Diagnosis of Pulmonary Disease —Dr. Stuart Pritchard, Battle Creek.

Traumatic Surgery, with Special Reference to Skull and Spinal Inuries—Dr. W. J. Cassidy, Detroit.

COUNTY SOCIETIES

MECOSTA COUNTY

The last regular meeting of the Mecosta County Medical Society was held Tuesday evening, June 9, 1931, at the residence of Dr. C. L. Soper, Barryton, Michigan.

Those present were Drs. MacIntyre, Dodge, Treynor, Yeo, Grieve, Campbell, Franklin, Soper, Stibal, Kelsey, Rondeau (Sherman City), Peck and Burkart. Dentists, Shank and Miller of Big Rapids.

Dinner was served at 6:45 P. M. The meeting was called to order by President MacIntyre at 8:00 P. M. The minutes of the last regular meeting were read and approved. The meeting was then turned over to the Program Committee. Dr. Yeo, chairman, introduced Dr. W. J. Butler of Grand Rapids, Michigan, who gave a very interesting talk amplified with lantern slides, on the subject, "The Office Treatment of Genito-Urinary Affections." The paper was discussed by Drs. Grieve, Treynor, Franklin, and Kelsey.

Dr. Campbell suggested that a change of meetings from the second Tuesday in each month might give members of Montcalm Society an opportunity to attend our meetings. On motion the question was deferred until the next regular meeting.

On motion, a committee consisting of Drs. Franklin, Treynor, and Grieve was appointed to investigate the maternal mortality rate in Mecosta and Osceola counties, in accordance with a request of Dr. C. C. Slemons, State Commissioner of Health, Lansing, Michigan, made under date of March 25, 1931.

Drs. Kelsey and Yeo moved that a rising vote of thanks be tendered the speaker and the host of the evening, Dr. W. J. Butler and Dr. C. L. Soper. Carried.

The meeting adourned to convene the second Tuesday in July at the Country Club, Big Rapids.

Jno. L. Burkart, *Secretary.*

WAYNE COUNTY

Dr. H. W. Plaggemeyer, president of the Wayne County Medical Society, was host to a group of twenty representative members of the organization, including the presidents of all the branch societies, in the Society's club rooms for the purpose of conferring on the appointment of chairmen and committeemen for all of the thirty-seven boards and committees of the Society. Five past presidents of the Society were at this meeting. The committees have become so numerous and their work so diversified that the president requested advice from those well constituted by experience to understand the problems of every field of endeavor. Approximately 300 will be placed on the Society's committees this year.

The Bulletin of the Wayne County Medical Society has been publishing each week lists of new interne appointments in the various Detroit and Wayne County hospitals as well as information on the present location of last year's internes and residents. This interesting information appears in the "Hospital News" column of The Bulletin.

The annual reports of all the committees and boards of the Wayne County Medical Society were presented to The Council of the Society on July 20 and will be published from week to week in The Bulletin. The reports show that a remarkable amount of work was done by these committees, resulting in definite progress for the Wayne County Medical Society during the past year.

To date some thirty medical talks have been presented by the Public Education Committee of the Wayne County Medical Society over Radio Station WEXL, Royal Oak. These talks are given Tuesdays, Thursdays and Fridays, 10:30 to 10:45 A. M. The wave length of WEXL is 1310.

Nineteen hundred and ninety-two luncheons were served in the Cafe of the Wayne County Medical Society during the twenty-six working days of June, 1931. In addition, forty-five dinners were served upon special reservation. The average charge for luncheon per person was 44.8 cents. The total income for the Cafe in June amounted to $1,075.35. The House Committee has so efficiently handled the Cafe during the past year that it was re-appointed in toto by the Board of Trustees. The House Committee is composed of: Dr. Wm. Fowler, Chairman, Dr. Sarah Schooten, Dr. L. T. Henderson, Dr. Howard Havers and Dr. J. E. Watson.

The Roof Garden of the Society is enjoying great popularity during the present hot weather. Detroit and Wayne County physicians are enjoying this spot which is eleven floors above the hot pavement where refreshing breezes are captured and delectable food is served in a garden atmosphere. Members of the Michigan State Medical Society who visit Detroit are cordially invited to take luncheon on the Roof Garden of the Wayne County Medical Society, 1124 Maccabees Bldg., Detroit, on the Art Center.

The Second Annual Golf Tournament of the Wayne County Medical Society will be held at Hawthorne Valley County Club, Warren Avenue, Wednesday, September 16, 1931. Dr. R. C. Jamieson, Chairman of the Golf Committee, anticipates that some 300 members of the Society will attend this party, which is looked forward to from year to year by the golfing doctors.

The mail in the Executive Office during June amounted to 2,054 pieces, of which 851 were incoming and 1,203 were outgoing.

Dr. C. G. Jennings, the oldest graduate of the Detroit College of Medicine and Surgery, was honored

by being elected as Honorary President of the Medical Alumni Association at its Sixty-First Annual Reunion, Thursday, June 18. Dr. Jennings received his diploma with the class of 1879, which was ten years after the school was founded.

Dr. L. J. Hirschman has been re-appointed to the State Advisory Board of Health for another five year term by Governor Brucker.

Dr. Donald M. Campbell was recently honored by receiving the degree of Doctor of Science from the College of the City of Detroit at the annual graduation exercises.

Mr. Mac Cahal, newly appointed executive secretary of the Sedgewick County Medical Society, Wichita, Kansas, visited the Executive Offices of the Wayne County Medical Society for three days of "observation" during the past month.

Dr. V. E. Gram, President of the Larimer County Medical Society, Fort Collins, Colorado, has written to the Wayne County Medical Society inquiring about the work of its Public Education Committee. Dr. J. D. Dunshee, Health Officer of Pasadena, California, has written, inquiring about the work of the Public Health Committee and its plan of periodic health inventoriums which the Committee will announce in the early Autumn.

THE DOCTOR'S LIBRARY

March's Thesaurus Dictionary; a treasure house of words and knowledge; prepared under the supervision of Francis Andrew March, LL.D., L.H.D., D.C.L., Litt.D., one time professor of English and comparative philology at Lafayette College, and Francis A. March, Jr., A.M., Ph.D., assistant in English, Cornell University (1885); with amplified appendix completely indexed; pages 1,284 plus 202; substantially bound in green buckram. Illustrated. The Historical Publishing Company, Philadelphia, Pa., 1930.

Francis A. March, the author of March's Thesaurus Dictionary, was born in 1825 and died in 1911. He became associated with Lafayette College in 1855 and two years afterwards became Professor of English language and later of comparative philology, a position which he held until his retirement in 1907. His magnum opus was this monumental treasure house of words. March's Thesaurus resembles in a way such well known works as Gray's Anatomy or Webster's Dictionary, to the extent that each is the work of an outstanding scholar. The form and idea of the original work, while remaining unchanged, has been preserved and amplified by subsequent revision so as to keep it abreast of the times. March's Thesaurus Dictionary contains over 200,000 words conveniently indexed and grouped. We might also say that the volume is thumb-indexed, which makes for still further convenience. This book is invaluable to any author or to those who have regard for accurate and forceful speech. We would particularly emphasize its value as an aid to the composition of medical papers, in which the difficulty is not so much with technical words as in obtaining the best possible English word to express the desired shade of meaning. March's Thesaurus presents a rich variety of synonyms from which to select. We strongly recommend this work as a desk companion not only to the medical editor but to the medical author. There is no other profession more prolific than medicine in ideas which find their way into the printed page, whether magazine article or book.

The present edition of March's Thesaurus contains more subject matter than its predecessors in a smaller volume, owing to the fact that it is printed on a thinner though a fine quality of opaque paper. The convenient size, coupled with the ideal indexing feature, together with the simple directions suggested for its use, makes it a splendid reference volume.

RECENT ADVANCES IN THE STUDY OF THE PSYCHONEUROSES. By Millais Culpin, M.D. (London), F.R.C.S. (England). Lecturer in Psychoneuroses at the London Hospital Medical College, and in Medico-Industrial Psychology at the London School of Hygiene and Tropical Medicine. With 4 illustrations. Philadelphia, Pa. P. Blakiston's Son & Co., Inc. (1931). Price $3.50.

This book belongs to the excellent series of volumes dealing with recent advances in the various departments of medicine and surgery and allied subjects which have been reviewed in this department from time to time. Among the subjects here treated by the author are an historical review; The Present Position of Psychoanalysis, Occupational Neuroses, Psychoneuroses in Industry, Individual and Analytical Psychology, The Psychopathology of Childhood. The work is non-technical for the general practitioner and the industrial physician. In other words it will appeal to a wider clientele than the psychiatrist and neurologist. It will be read with profit by the student of mental hygiene.

THE INFANT WELFARE MOVEMENT IN THE EIGHTEENTH CENTURY. By Ernest Caulfield, M.S., M.D. With 8 illustrations. Paul B. Hoeber, Inc. New York. Price $2.00.

This is a unique contribution to the history of medicine as well as to the social history of eighteenth century England. The author presents a well documented account of the sanitation of the century as well as the enormous infant mortality and the decadence of morals that characterized the period. An interesting account of Thomas Coran (1668-1751), the founder of the first foundling hospital, is given. His was the first attempt to deal with the infant poor on a large scale. Coran who had seen extensive service as a sea captain, retired from the sea in 1719 and devoted the remainder of his life to humanitarian projects. Coran's appeal for the preservation of the lives of unfortunate infants was to the upper class women of the time. Not only is this an important contribution to the history of pediatrics, but it will be found of interest to a large class of general readers. The printing and the format of the work are in keeping with Hoeber's well known monographs on medical historical subjects.

BACKACHE. By James Mennell, M.A., M.D., B.C. (Cantab.), Medical Officer, Physico-Therapeutic Department, St. Thomas's Hospital. Illustrated by Margaret Morris. Philadelphia. P. Blakiston's Son & Co., Inc. 1012 Walnut St. 1931.

This monograph of about two hundred pages is based on the author's eleven years experience in the diagnosis and treatment of the various causes of backache. Certain lines of thought have been suggested by other authorities but the conclusions are based entirely on the author's personal experience. His interest in the subject was first aroused by his association with Dr. Joel E. Goldthwaite of Boston, during the world war. Much space is given to the methods of examination of the back. Only the more simple of the various manipulative technics are described. The methods of examination and the technic of the various manipulations are illustrated by simple line drawings which are very effective. The treatment is dealt with in an elementary manner, but covers the ground well and offers an excellent foundation upon which to build. This book is not burdened with references and theory. It is written in a direct, simple style and is very easy to read. It should be greatly appreciated by the general practitioner and would also be of benefit to most of the specialists.

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CONTENTS

Vomiting of Pregnancy. Robert W. Wilkins, A.B., M.D. ... 669
Postnatal Care. Clarence T. Toshbach, M.D. ... 673
Roentgen Diagnosis in Gynecology and Obstetrics. Irving F. Stein, M.D., F.A.C.S. ... 675
Atrophic Vulvitis and Carcinoma of the Vulva. Merrill Smeltzer, M.D., and H. M. Nelson, M.D. ... 680
The Relation of Pelvic Inclination, Lumbar Index, and Posture to Obstetrics. Cleary Swanson, M.D. ... 684
Trichomonas Vaginalis Vaginitis. George Kamperman, M.D. ... 686
Dermoid Cysts of the Ovary. Harold A. Furlong, B.S., M.D. ... 688
Avertin in Obstetrics and Gynecology. James M. Pierce, M.D., F.A.C.S. ... 691
Eclampsia—A Preventable Disease. E. B. Andersen, M.D. ... 693
Obstetrical Morbidity. Paul W. Willits, M.D., F.A.C.S. ... 697
Famous Men in Medical History: Early American Medicine and Dr. Zabdiel Boylston. W. H. Steffensen ... 702
Of General Medical and Surgical Interest ... 707
Editorial:
History of Science a Neglected Subject ... 709
A Gynecologic and Obstetric Number ... 710
Malpractice ... 710
Addison's Disease ... 711
Automobile Accidents ... 712
The X-ray in Gynecology and Obstetrics ... 712
General News and Announcements ... 714
Deaths ... 714
Official Program, 111th Annual Meeting, Michigan State Medical Society, Pontiac, September 22, 23 and 24, 1931 ... 715
Society Activity ... 734
County Societies ... 736
Woman's Auxiliary ... 736
The Doctor's Library ... 737

VOMITING OF PREGNANCY

ROBERT W. WILKINS, A.B., M.D.†
ANN ARBOR, MICHIGAN

Much has been written on vomiting of pregnancy, its etiology and treatment. The theories that have been advanced as to its etiology are numerous and I shall attempt to enumerate only a few of them. Kaltenbach was one of the first to attempt to explain nausea and vomiting of pregnancy on the basis of a neurosis. Stowe, Ewing, Titus and others attribute this condition to a carbohydrate deficiency. According to Calkins it is a protein intoxication. Hurst, Carter and others have attempted to explain the excessive vomiting of pregnancy through some disturbance of the endocrine system. Dieckmann and R. J. Crossen believe that this condition is due to a deranged metabolism of the maternal organism, particularly the carbohydrates. Thalheimer is of the opinion that acidosis is the chief factor. W. C. Alvarez has demonstrated that in pregnant animals there is a disturbance in the normal intestinal gradients, namely, a reversal and inhibition of the peristaltic rushes and a slowing of the rate of travel of these waves. Hyperemesis, according to this authority, may be explained by these deviations from the normal in the pregnant woman. Shears favors the neurotic and toxic basis, as does Peterson. Williams is of the belief that all

†Dr. Wilkins is instructor in the Department of Obstetrics and Gynecology, University Hospital, Ann Arbor, Michigan. This paper was presented before the Section of Gynecology and Obstetrics at the 110th Annual Meeting of the Michigan State Medical Society held at Benton Harbor, Sept. 15, 16, 17, 1930.

cases are on the toxic basis. In general, the majority favor the neurotic and toxic changes as the causative agents in the production of nausea and vomiting of pregnancy. However, some prefer to further subdivide these two general heads although not to any marked degree. Whatever theory or theories may be favored, one fact must be ever kept in mind. The so-called physiological vomiting of pregnancy may easily become pathological, and unless the patient is relieved death may follow.

Nausea and vomiting of pregnancy occurs in about fifty per cent of pregnancies. According to Peckham the symptoms occur in a form severe enough to require hospitalization in about once in every one hundred and fifty pregnancies, and in severe cases once in four hundred, also that age and parity have no part in the selection of its victims, and it appears to be more frequent in the upper strata of society. Nausea and vomiting of pregnancy especially in its more severe forms apparently is more common in this country than in England, or Germany, and rare in the uncivilized peoples.

The treatment of the so-called physiological vomiting of pregnancy or simple morning sickness or variations of this common condition associated with pregnancy is extremely varied. Many writers claim a more or less specific form of therapy for this condition. However, with such varied forms of treatment offered and the different results obtained it is obvious that the physician is called upon to use his utmost skill and resourcefulness and treat the individual, as well as her nausea and vomiting. What will benefit one will be of no avail to another. There is no doubt that suggestive therapy plays an important part in the treatment and successful end-results in certain cases of this condition. The following are some of the methods of therapy successfully employed in the management of nausea and vomiting of pregnancy, not of the severe type.

It is well to examine carefully the upper respiratory tract to eliminate any possible condition which might be conducive to vomiting, such as severe post-nasal drip, pyorrhea alveolaris or hypersensitive posterior pharyngeal wall. If any of the conditions mentioned or others be found, proper treatment should be instituted for their relief. The factor of constipation is important and should be given careful consideration. Replacement of uterine malpositions may be of some value. The treatment of any genital irritation may be beneficial. Some writers report that simple dilatation of the cervix or the introduction of tampons soaked with glycerine into the vagina is sufficient to control the symptoms and results in cessation of the vomiting. The general physical condition of the patient should be carefully determined. Lying in the prone position will give relief to some. The habits of the individual should be known and the patient be instructed as to proper exercise and the hygiene of pregnancy. Excessive coitus may cause the symptoms to increase. The patient should be free from boresome duties as much as possible, such as cooking, dishwashing and the ordinary kitchen routine. Excessive emotional states should be avoided.

The diet is an important factor in the successful treatment of this condition. In general the diet should contain an excess of carbohydrates. The eating of hard candies may be of value. The time of eating should be more frequent and less taken at each meal. The use of dry foods is of value. Also at times good results are obtained by taking no fluids except when some solid food is associated. The patient should be allowed to choose her own diet as far as possible. Food should be attractively prepared and served. Another form of feeding has been advocated and that is to eat before arising in the morning, and to remain in bed at least a half hour after eating. Also food may be placed beside the bed and taken during the night should she awaken. The type of food advocated for this is dry biscuits of some kind. Fluid may be taken in association with the dry food.

Physical therapy offers the exposure to ultra-violet light as a form of therapy for this condition, and favorable results have been reported from its use.

Many patients can be successfully treated without the use of drugs; however, in some it becomes necessary to employ them. The drugs that have been used are very numerous. Sedatives such as bromides, luminal, sodium-luminal, sodium-amytal, all have their place. Caffein citrate gr. 2 three times a day, one-half hour before meals, may be beneficial in some cases. The action of this drug is to increase the secretion of

hydrochloric acid in the stomach, which is diminished in pregnancy. Corpus luteum extract in its various forms may be used.

Perhaps one of the most important steps in the management of the type of case that does not require hospitalization is to gain the utmost confidence of the patient and assure her that if she will absolutely follow your directions her unpleasant symptoms will be cured. The physician has many forms of therapy at his command with which to accomplish his desired results, and by judicious application of his knowledge and his judgment of the individual patient much good can be gained, both to the satisfaction of the patient and himself.

It is a different matter when it comes to treating the patient whose symptoms are severe enough for admission to the hospital, and if severe the case should be hospitalized, as the patient can be more successfully treated in a hospital than at home. Again in this there seems to be some difference of opinion regarding the methods to use. In general there seems to be an agreement as to the use of fluids by rectum, hypodermoclysis or intravenously as the case demands, glucose with or without insulin, sedatives, restriction of food or fluids by mouth and finally abortion should all other measures fail.

In brief the following is the plan of treatment for the patient with a severe case of vomiting admitted to our clinic. Upon admission the patient is put immediately to bed. A complete general physical examination is made, which includes optical fundi examination, which is well to do in all cases of toxemias of pregnancy. Complete laboratory work is done, which includes complete blood, Kahn test, urinalysis, serum bilirubin, blood sugar and CO_2 combining power. The room is darkened and no visitors are allowed. A special nurse is of value. The patient is allowed nothing by mouth, which should be kept clean and the lips soft. The colon is then thoroughly cleansed and rectal fluids started. A solution of 5 per cent glucose in normal saline or Ringer's solution is used. Usually at this time an infusion of normal saline with 5 per cent glucose is given subpectorally. The amount that can be given in this manner is variable. Also glucose is given intravenously. The glucose is used in the form of a 50 per cent solution and is followed by a solution of normal saline or Ringer's solution. The saline should be doubly distilled and fresh. The amount of glucose and fluids intravenously depends upon the degree of dehydration and evidence of intoxication present. In addition to the above mentioned hypodermic, preparations of corpus luteum may be used, also gastric lavage. Sedatives are used as needed. Transfusions may at times be indicated. Feedings are resumed by mouth after a period of twenty-four to thirty-six hours. At first only fluids are given and in teaspoonful doses. Gradually the amount and frequency of the feedings are increased, as the patient is able to tolerate the food. However, there are some patients who will not respond to any type of therapy and their condition grows rapidly worse. Obviously abortion is indicated in this type of case.

The indication for abortion is the rapid or gradual weakening of the patient under suitable treatment. The change for the worse may come on suddenly. Laboratory findings will be of great help in determining the prognosis, but one can not rely entirely on them. Jaundice is of grave import. In general about all one can say is that the physician has to be the judge. No patient should be aborted without consultation.

After abortion has been decided upon, then one has to select the proper method. Of course the methods depend to some degree upon the period of gestation. Whenever possible the method of choice should not require general anesthesia, which is contraindicated in patients as much depleted as are these. The cervix is not a very sensitive organ and will usually stand the insertion of a bougie or even moderate dilatation and removal of uterine contents without anesthesia. Prolonged uterine manipulation especially under general anesthesia takes away the patient's last chance.

An analysis of fifty-one cases of pernicious vomiting of pregnancy admitted to the University Hospital Maternity for treatment revealed the following facts. It must be understood many of these patients were sent to the Maternity after the time when any form of treatment could be of any avail. In a number of cases the uterus was emptied against the best judgment of the attending staff because the patient and family begged something be attempted. In an occasional case the uterus was not emptied properly, since much has been

learned about the avoidance of obstetric shock since 1901, from which year this series dates.

Total number of cases of pernicious vomiting, 51.

Average age of patients, 25.5 years.

Youngest, 18; oldest, 39.

Primiparæ, 27, 52.9 per cent.

Multiparæ, 24, 47.0 per cent.

Although more than half the patients in the Maternity are illegitimately pregnant, it is rather curious that only rarely is pernicious vomiting of pregnancy met with in this class of patients. Of the fifty-one patients, only four were in the illegitimate group.

The average duration of pregnancy at the time of admittance to the hospital was approximately two and one-half months.

The number of days that symptoms had been present prior to admission to the hospital was fifty-three. This fact no doubt will explain the reason for such a high mortality in this series.

Number of therapeutic abortions, 10 (19.6 per cent).

Number of spontaneous abortions, 3 (5.8 per cent).

Number of deaths following therapeutic abortions, 6 (11.7 per cent).

Number of deaths following spontaneous abortions, 0 (0 per cent).

Number of patients with this complication who died unaborted, 2 (3.9 per cent).

Total number of deaths, 8 (15.2 per cent).

CONCLUSIONS

1. Nausea and vomiting of pregnancy or morning sickness should be treated both for the relief of the patient and that the more serious form of the symptom-complex may be avoided.

2. Patients with severe forms of vomiting should be hospitalized at the onset of the complication.

3. Abortion is indicated in a definite proportion of cases and once decided upon it should not be delayed. The method involving the least shock and hemorrhage should be the one of choice.

4. Therapeutic abortion should only under the rarest of circumstances be performed without consultation and not without the complete knowledge of patient and family.

5. An increasing pulse rate shows weakening of the heart muscle and is a danger signal. The mother should be given the benefit of the doubt. If her condition is steadily becoming worse she should be aborted before her condition is so serious that emptying the uterus will be of no avail.

6. The physician's regret is apt to be that he delayed too long, not that fetal life was destroyed.

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SYSTEM OF WEIGHED HIGH CARBOHYDRATE DIETS FOR DIABETES

James J. Short, New York, presents in tabular form six weighed high carbohydrate diets for diabetic patients. A summary of the carbohydrate, protein and fat content of each, together with its caloric value, is appended for ready reference. The food amounts are given in multiples of ten in most instances, and amounts of 100 or 200 Gm. are used frequently for the sake of convenience and simplicity. The foods are grouped according to the carbohydrate, protein and fat contents, so that a fairly wide choice of foods can be made without in any way causing a deviation from the accuracy of the diet. This wide latitude of choice is greatly appreciated by the patient. The proteins are listed in multiples of 15 according to Mosenthal's original lists. The fat contents are approximately one and a half times the protein and, in accordance with Sansum's suggestion, the carbohydrate is twice the fat. The caloric values range from 910 to 2,831 calories, and in each diet it happens by coincidence that the caloric value is approximately ten times the carbohydrate content in grams. The approximate percentages of the daily food distribution are also in tabular form. Details of results obtained from the use of these diets are reserved for a future communication. In general, the benefits seen have greatly exceeded expectations. Based on experiences with a considerable number of patients seen during the past two years or longer, where careful comparisons have been possible between these and the former relatively high fat-low carbohydrate diets, it is the author's belief that the higher carbohydrate-fat ratios possess many distinct advantages and will become increasingly popular with specialists in diabetes as time goes on.—*Journal A. M. A.*

POSTNATAL CARE*

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SAGINAW

The situation that prompted particular interest in this subject was, first, the amazing number of women partially disabled following childbirth, by frequent or constant backache, bearing down pains, disagreeable discharge and, as popularly expressed, lack of pep; and, secondly, the perennial taunt of the surgeon that every obstetric case is a prospective patient for surgery. It should be our aim to return a mother to her household and social duties as well and active as she was before her first pregnancy. Certainly antenatal and natal care have their important place in this ambitious program, but in this paper I wish particularly to bring out some of the factors in the routine postnatal care of patients, especially those apparently normal.

The postnatal care begins indirectly in the antenatal care and care during delivery.

The problem of whether or not to do a routine episiotomy is always present. Certainly under hospital care where the baby promises to be of normal or larger size a perineotomy reduces the amount of trauma to the perineum and vulva and is much easier to repair. An additional point in favor of this procedure is that injuries to the anterior vaginal wall with associated injury to the vesical sphincter, resulting in only partial urinary control, are eliminated.

The routine episiotomy in home obstetrics introduces another avenue of infection in a questionably aseptic field which I am loath to use under such conditions. Whether or not an episiotomy is done or if a tear occurs a careful coaptation of the tissue should be attempted. Whenever a tear occurs I cannot urge too strongly a very careful examination to determine the extent of the laceration, as tears are often through the mucosa of the vagina and not through the skin on the perineum. This seems axiomatic, but as I have had colleagues, whose judgment is respected, say that they deliver primiparæ of 9-10 pound babies without injury to the birth canal I feel that this bears mention. If there is no assistant present, the use of a perineal retractor is a great help. I find this a particular help in home obstetrics. In fact it was after I used a perineal retractor and determined the full extent of the tears that I was getting in spite of careful methods to avoid them that I began doing episiotomies. To try to repair the perineum of a struggling patient is useless and to try to convince her, at such a time, that it won't hurt is almost as useless, so even in my home obstetrics I have the patient given an anesthetic in order that the repair can be done as exactly as possible. Although our research workers have shown that choloroform causes a degeneration of the parenchymatous organs there is no other anesthetic so convenient, so rapid in its effect or so easily handled in the home; and in a short anesthesia the latter overbalances the former. When multiparæ are cared for in the hospital and where the patient has not been exhausted by labor it is possible to repair the perineum that has been relaxed by previous labors directly after delivery. To be sure, an additional procedure increases the possibility of infection and it must be constantly borne in mind that in all these procedures we have to be much more watchful of our asepsis and antisepsis than at an operative procedure because of the ever present contaminated area, the anus. I cannot urge too strongly detailed watchfulness of technic at this time, for in no other surgical field is it easier to break your technic. Speaking of technic in the homes, I would like to digress a moment and urge coöperation with community agencies that are endeavoring to work with us in improving the service to the puerpera in the homes. It is easy to understand why a general practitioner, after working all day, at two A. M. loses much of his enthusiasm about detail of care which is neither understood nor appreciated by the patient. As in many cities, the Visiting Nurses' Association of Saginaw has recently instituted a maternity service which supplies adequate sterile material, free, for home deliveries and they are planning to have nurses available also. This

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is certainly a helping hand in awkward, difficult and oftentimes dangerous situations which under the present industrial conditions we meet. As for the repair itself, the essential point is to bring together the parted levator and fascial edges; the skin and mucous membrane will quite well take care of themselves if the underlying structures are united. As important as a firm perineum is, it is but one factor in the convalescence from labor. A second factor is the reestablishment, after the expulsion of the child, of the intra-abdominal pressure, in order to help maintain the position of the uterus. This can be started a day or two after delivery by having the patient take deep breathing exercises in bed two or three times daily—this not only strengthens the abdominal muscles but increases the oxygenation of the blood, a factor in resistance building, and empties the large pelvic and abdominal veins, thus helping to reduce stasis, and the possibility of embolism. Another aid is the leg exercise—i.e., with the patient lying on her back with her knees stiff, first one and then the other leg is raised to the perpendicular or near perpendicular. After several days of this, both legs are raised at once. The beginning and the extent of this exercise will be governed partially by the extent of the lacerations and repair. This raises the point of how quiet a patient should be in bed. After the second or third day the patient should be rolled over on her abdomen several times daily. After she is up she should be taught the exercise of walking on her hands and feet and while in this position kicking upward and backward. This is not only an exercise of the abdominal muscles but also maintains the position of the uterus, anterior, and drains the pelvic veins, relieving the engorgement of the pelvis. Another exercise contributing to the same end is the knee-chest position, which can be taken on the eighth to tenth day after delivery.

One of nature's methods of causing involutions is by maternal nursing. There seems to be less and less maternal nursing both voluntary and involuntary. For the latter I have no solution, but for the former, which is all too common, a few moments of sincere explanation at some time during the prenatal period will successfully convince most mothers of the value of nursing their offspring.

In the routine postpartum examination we have an opportunity to check up on the general condition of the patient and particularly on the local pelvic condition. In approximately half of the patients one will find a pathological condition consisting of either a retroverted subinvoluted uterus or a red, angry, succulent looking cervix which bleeds on the slightest manipulation. Chronic endocervicitis is always due to bacterial invasion. Not only does the cervical infection cause induration of the broad ligaments with its associated congestion of the pelvic organs, but by an increasing number of men it is considered a pelvic tonsil as a focus of infection. Only those of us who have tried to treat such a cervix with topical applications and tampons can realize the full value of the cautery in treating erosions. Cauterization can be done as early as the sixth week after labor and can be done in the office without anesthesia. After a bivalve speculum has been inserted in the vagina and the mucous discharge wiped out, the cervix is painted with mercurochrome. The ordinary small nasal cautery tip is inserted into the cervix, the current is turned on and the tip is gradually withdrawn, extending the cauterization to the edge of the erosion. This is repeated until there are several lines like the spokes of a wheel extending from the os to the periphery of the erosion. The placing of the cautery lines varies with the shape of the erosion, and the type of lacerations sustained by the cervix. If there are any small cysts in the cervix these should be cauterized also. Although the cervix is almost insensitive to pain the mucous membrane of the vagina is exquisitely sensitive and great care should be exercised not to approach it with the cautery. This treatment is followed by an increased amount of discharge, changing from purulent to watery, for a week or ten days, usually followed by complete healing. Occasionally a second or third application of the cautery is necessary. So effective has this treatment been that in many clinics trachelorrhaphies and other operations for cervical lacerations and endocervicitis have been abandoned.

The last measure which I wish to mention is the use of the pessary. In the tidal wave of surgery that has swept the country in the last decade this valuable instrument has been submerged. Many observers have shown that retroversion of the uterus oc-

curs in from 40 to 50 per cent of postpartums. Exercises help to prevent this and in some cases cure it, but there remains a definite percentage which require a mechanical support and by no nonoperative method can this support be obtained better than with a Hodge or Smith pessary. After replacement of the retroverted uterus the depth of the vagina is measured and the approximate size pessary is selected and introduced. The proper selection and painless introduction of a pessary is an art which can be acquired only by practice. The pessary should not be so large that the finger cannot be passed around it easily nor so long that it impinges the urethra against the symphysis. Too small a pessary will not offer any support. The after-treatment consists of a cleansing douche every day, or every other day, and of an examination, exchanging the pessary after three days, then after two weeks, then six weeks, then every three months. Whether or not the pessary can ever cure retroversions permanently is a question. All of us have records of permanent cures in many cases. Those patients who are not cured obtain relief of their symptoms during the child-bearing period, when we all are reluctant to urge major operative procedures, the results of which may be nullified by subsequent pregnancies. Postnatal care consists of many disjointed details which are easily forgotten or overlooked. For this reason it is well to have a routine established in the hospital which is carried out automatically, making exceptions when necessary.

To sum up, we attempt to return our puerpera to their household and social activities with all the energy and vigor of their youth by careful repair of the birth injuries, by promoting involutions by natural stimulation, i.e., by breast feeding, by reestablishing intra-abdominal pressure by exercising the abdominal muscles, by postural drainage of the vagina and the venous flexes of the pelvis, by thermal cauterization of the infected cervix, by replacing and maintaining in position the retroverted uterus. These are all comparatively simple procedures but require patience and perseverance both on the part of the physician and the patient, but so long as abdominal incisions become infected, so long as laparotomies are frequently followed by adhesions, so long as surgical correction is not unfailingly successful and so long as anesthesia is not without mortality, such persistence and care seem well worth while.

ROENTGEN DIAGNOSIS IN GYNECOLOGY AND OBSTETRICS*

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The use of the X-ray, which has become so important for diagnosis in almost every other branch of medicine and surgery, oddly enough has lagged sorely behind in gynecology and obstetrics. In gynecology this may be accounted for in part by a peculiar conceit of the gynecologist that he has trained his touch to that high degree of accuracy that he requires no outside aid; in part also to the habit of forming judgments on the basis of the patient's complaint and the presence or absence of more or less definite pelvic findings. In obstetrics, the fear of injuring the fetus in utero and the technical difficulties encountered were the chief obstacles to the use of the X-ray.

Precision in gynecologic diagnosis is a quality frequently not attained until laparotomy, and then sometimes deferred until the return of the report of the pathologic laboratory. Improved teaching methods and increased facilities in hospital out-patient clinics tend to enhance the accuracy of clinical diagnosis. However, a history of the case and the bimanual examination are still the chief factors in diagnosis, complemented

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as indicated by serologic, bacteriologic and other laboratory tests. The frequency with which incorrect diagnoses are made even by specialists of many years of experience, discovered at the operating table or, later, in the pathologic laboratory, affords sufficient reason for seeking additional diagnostic aids to our ordinary armamentarium. This lack of precision is evidenced by the frequent appearance on operating room schedules of such evasive terms as "exploratory laparotomy," "abdominal section," "gynecologic lap," "pelvic inflammatory," or "pelvic tumor." Such preoperative diagnoses are not acceptable in a Class A hospital. At the Michael Reese Hospital, Chicago, every surgeon is required to write his preoperative diagnosis over his signature on the patient's record before the anesthetic is administered.

Diagnostic errors may be due to insufficient study of cases. The pernicious habit of admitting patients the night before the operation is no doubt also one cause. Crowded operative schedules are partly to blame, as is also a limitation of hospital beds. A far more important cause is the reliance upon a single bimanual examination for gynecologic diagnosis without due regard for a *personally obtained* history. To depend upon the history taken by an intern, especially in gynecological cases, is a serious error. Whatever the causes may be, the fact remains that not only the beginners in gynecology but also experienced clinicians, men of twenty-five to thirty years' experience, are still performing abdominal section without an accurate preoperative diagnosis. These same clinicians who upon laparotomy for fibroids are surprised to find a pregnancy instead, are the very ones who refuse to have recourse to diagnostic roentgenography, when such differentiation is readily and definitely obtainable. There is, moreover, a medico-legal significance to this question which cannot be overlooked, which was emphasized in a former paper on this subject.[1] In the present high state of development of roentgenography, a physician holds himself open to charge of malpractice for serious errors in diagnosis if he fails to avail himself of this source of information and thereby subjects his patient to unnecessary operative interference.

In many instances patients shop from one physician to another because of pelvic disturbance. The varying opinions which they may receive not only tend to confuse the patients, but are also apt to shake their confidence in the physician. Who is to decide which is the correct opinion? The indisputable evidence on an X-ray film in support of one opinion or definitely negating another will prove of great value in restoring the confidence of the patient and will lead directly to the correct management of the case.

For the past eight years I have been interested in the development of roentgen diagnosis in connection with my obstetrical and gynecologic problems, and I have found it indeed a most useful adjuvant. I do not wish to convey the impression that I use the X-ray routinely for diagnosis, but I have used it freely in cases of uncertain diagnosis, in settling differences of opinion, in obtaining precision in diagnosis and establishing a permanent and indisputable record of the pelvic status.

ROENTGEN DIAGNOSIS IN GYNECOLOGY

In gynecology my interest first centered about the Rubin patency test in cases of sterility. This test has proven one of the most striking advances in gynecologic diagnosis of the age, and has been the means of opening new avenues of investigation. This soon led, at the suggestion of Peterson, to the use of the transuterine inflation of the abdomen in cases where the tubes were found permeable and transabdominal inflation in certain other cases, and X-ray of the pelvic viscera with the superinduced pneumoperitoneum. Modifying Peterson's technic by the additional use of the Bucky diaphram, I obtained such satisfactory results that I was encouraged to utilize the method more widely in gynecologic diagnosis. Diagnostic pneumoperitoneum had been used in gynecology sporadically since Orndoff,[2] and Stein and Stewart[3] first introduced it in 1919, but Peterson's studies[4] gave it new impetus; his introduction of the partial knee-chest position, the transuterine route, and the diagnosis of early pregnancy established it as a safe, valuable and practical method of pelvic diagnosis.

In eight years I have used transuterine or transabdominal pneumoperitoneum in over 500 cases without accident or serious complications, and since 1926, when Forestier first demonstrated in this country the use of lipiodol as a contrast medium, I have used

this iodized oil in combination with pneumoperitoneum in over 200 cases. From time to time I have modified and improved my technic, and with the coöperation of Dr. R. A. Arens, roentgenologist at Michael Reese Hospital, have devised suitable instruments[5] and a special radiographic table[6] to facilitate this work, all of which has been published elsewhere. Jung and Schirmer,[7] and Heuser[8] have also employed the two methods (iodized oil and pneumoperitoneum) in combination, with great satisfaction. At the risk of repetition I wish to state the comparative values of these roentgenologic diagnostic methods.

Fig. 1. Lipiodol instillation. Patent Fallopian tubes.

Fig. 2. Lipiodol and pneumoperitoneum. Ovarian cyst visualized by the gas.

With the X-ray after pneumoperitoneum one can visualize all the female pelvic viscera clearly on the roentgen film; the uterus, ovaries, Fallopian tubes, round ligaments and bladder are usually seen, silhouetted on the film. Obviously, any change in size, shape, density or position of these organs, any adhesion to them, or absence of them can be recognized. With the use of lipiodol or any similar radio-opaque liquid, the cavity of the uterus and lumens of the Fallopian tubes can be demonstrated (Fig. 1). This is of value particularly where the question of tubal patency arises, as "spill" of the contrast medium into the peritoneal cavity records tubal patency beyond question and the location of a definite point of obstruction may be accurately shown. By combining these two methods as I have done for the past three years, one is able to obtain the maximum information concerning the pelvic status without open operation[9] (Fig. 2). Of the two methods separately (pneumoperitoneum and iodized oil) by far the more information is obtained with pneumoperitoneum, as most gynecologic diseases produce alterations in the size, shape, density and relationship of the uterus, ovaries and tubes. Much less information is obtained with opaque liquid (lipiodol) alone; the diagnosis of pelvic tumors, cysts and ectopic pregnancy by the latter means I believe to be unreliable. The diagnosis of pregnancy by any intrauterine instrumentation or instillation is dangerous, meddlesome and unnecessary. With pneumoperitoneum, on the other hand, intrauterine pregnancy (as early as five or six weeks) can be differentiated from fibroids, ovarian cysts and tubal pregnancy, as can the various kinds of ovarian and parovarian cysts from each other preoperatively. Ectopic pregnancy has been shown in three of my cases, but a case of ovarian pregnancy was obscured by too dense adhesions. It is surprising, however, how much pelvic pathology can be shown on the roentgenogram in the presence of pelvic adhesions. Peritoneal serous cysts, which are usually not palpable, are usually seen as distinct opaque masses on the film. In obese women and women with rigid, firm abdomens, bimanual palpation is especially difficult; many such

women are sent to the hospital for laparotomy based upon the history of the case, but with indefinite physical findings. Roentgenograms in these cases often reveal that the pelvic viscera are not the cause of the

Fig. 3. Transabdominal pneumoperitoneum. Pregnancy six weeks.

patient's distress and are shown to be normal. Thus, by this method needless operations are avoided. The roentgenogram, as a matter of record, may prove of as great value for its negative as for its positive findings.

OBSTETRIC ROENTGENOGRAPHY

Before 1918 the field of obstetric roentgenography was practically unexplored. True, in 1899 Müllerheim[10] had partial success in demonstrating parts of the fetal bony structures, and in 1912 O'Donnell[11] showed a few successful plates in the last trimester of pregnancy. Twins were diagnosed on the film by Judd[12] in 1915. But no great amount of progress was made until Warnekros,[13] working in Bumm's clinic in Berlin, developed a suitable technic for obstetric roentgenography and published his remarkable atlas in 1918. Edling's[14] work was contemporary. In the past decade a more or less general adoption of roentgenologic diagnostic aid has gradually crept into obstetrics. However, when I first showed a series of obstetrical films at the scientific exhibit of the A. M. A. in San Francisco in 1923 they were indeed looked upon as medical curiosities. In fact, there were but few clinics in this country utilizing obstetric roentgenography at that time. I have studied over 1,000 patients during pregnancy roentgenologically, and, by adopting a careful and satisfactory technic developed by Dr. Arens, have never produced demonstrable harm to mother or child by this means. Today every hospital is equipped to take satisfactory roentgenograms, and the use of the X-ray in obstetrics is becoming quite common.

Obstetrical roentgenography may prove of especial value and may be indicated in the following instances:

1. In *early pregnancy* (five to twelve weeks) when immediate diagnosis is desired, or medico-legal issue is at stake, pneumoperitoneum should be used (Fig. 3). I am strongly opposed to the use of lipiodol or any other intrauterine method when pregnancy is present or suspected, as abortion is likely to occur as a result of the instrumentation. On the other hand, no ill effect has been observed after transabdominal pneumoperitoneum in a number of my cases of from five to ten weeks' pregnancy. These were done chiefly for differential diagnosis of intra- and extra-uterine pregnancy. Peterson's sign of broadening of the isthmus shadow and globular enlargement and decreased density of the fundus are characteristic. I have also observed increase in size of the round ligament on the film.

2. For *pregnancy at mid-term* or shortly before (without the use of pneumoperitoneum). Under favorable conditions the fetal bones can be shown on the film as early as thirteen to sixteen weeks,[15] and fairly regularly after twenty weeks. This is of value in differential diagnosis between soft fibroids, cysts and pregnancy, a problem which arises with ample frequency. Although the entire fetal skeleton may not always be demonstrated on the film at this stage of pregnancy, a characteristic shadow of the skull, some fetal long bones, or spine will usually be seen. The films should be made with the patient in the dorsal posture with marked lumbar lordosis.

3. For the determination of *multiple pregnancy* and the relative positions of the fetus. Twin and triplet births have been diagnosed in questionable cases as early as six or seven months, and may usually be accurately shown at term even in the presence of large amounts of liquor. The lateral pos-

ture in addition to the usual dorsal and prone views may prove of value.

4. In cases of *hydramnios,* where multiple pregnancy or *monstrosity* is suspected. Hydrocephalus, anencephalus, and other fetal anomalies have been reported repeatedly.

5. Before cesarean section, to insure the presence of a normally developed fetus. To subject the mother to laparotomy for the safety of her child, and then to deliver a monster is a ghastly error! In one case of apparent fetal dystocia in the maternity service at Michael Reese Hospital, cesarean section was about to be performed when the roentgen film disclosed an anencephalic monster. No operation was made, the abnormal fetus being extracted from below some hours later. In cases of apparent oversize child where section is contemplated, X-ray may reveal two small babies, each of which may easily pass through the birth canal, thus reversing the indication.

6. For *large* or *post-mature fetus,* the roentgenogram will show the degree of bone development, the cranial vault being especially ossified, the relative size of the fetal skeleton, and the pelvis in relation to the presenting part, so that its adaptability may be estimated.

7. *Mal-presentations* and positions such as breech, transverse, face (Fig. 4), and brow can be studied on the film to determine the degree of flexion or deflexion of the head, trunk and extremities, the position of the fetal poles, etc. Such information is of value in deciding upon the technic for management.

8. The *bony pelvis* may be studied. Stereoroentgenograms give a valuable perspective in estimating the relative contraction or deformity of the pelvis. Roentgen pelvimetry has also been developed to a degree of great accuracy by Thoms,[16] Jungmann[17] and others.

9. Spaulding[18] and Horner[19] separately described an intrauterine sign of *fetal death,* namely, overlapping of the fetal cranial bones and apparent shrinkage of the skull. From personal studies[20] I would warn against accepting such criteria in deciding upon the management of labor. I have shown similar roentgenographic evidence as well as apparent fetal collapse and acute spinal angulation in patients who subsequently delivered live babies. Other clinical signs of fetal death in utero are of greater significance than the roentgenographic evidence.

10. In rare cases the *placental shadow* will also be seen. In three cases of placenta previa I have found a corresponding shadow

Fig. 4. Face presentation. First stage of labor.

on the roentgen film. This may prove to be of value in differentiating concealed from unavoidable hemorrhage.

11. For *medico-legal* evidence of the fetus in utero, both in establishing a definite diagnosis in cases of illegitimacy, and in differential diagnosis of pregnancy from other pelvic tumors.

12. Finally, in the *teaching of obstetrics,* the roentgen film is of material value in visualizing the case for student instruction.

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ATROPHIC VULVITIS AND CARCINOMA OF THE VULVA*

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DETROIT

Atrophic vulvitis and carcinoma of the vulva are definite pathological entities. They develop after diminution or cessation of the activity of the ovaries due to disease, removal, or the menopause. We do not intend to enter into any discussion whether kraurosis vulva or leukoplakic vulvitis is the proper term, but have included them both under the generalized heading of atrophic vulvitis. We do wish to state that in approximately 50 per cent of cases showing the above changes cancer develops. There is probably no other region in the body in which cancer is preceded, for so long a time, by a precancerous condition as in the vulva. Carcinoma of the vulva occurs in one out of twenty-five cases of carcinoma of the pelvic viscera. If we can prevent or cure most of these we will have accomplished something worth while. It is therefore the object of this paper to call attention to this condition.

The external genitalia of women undergo extensive changes during the course of their reproductive life and the anatomical considerations vary in accordance with the age of the individual. In girlhood before puberty there is a prominence of the labial folds, a readily visible vaginal introitus, an absence of pubic hair and a smooth white dry skin. In adult women the mons veneris becomes prominent, there is growth of the pubic hair and the introitus, which now is covered by well developed labia, is characterized by a moist pinkish colored surface. In women, who have passed the menopause, there is some variation in the appearance of the vulva, depending upon whether or not the woman has had children. Whether or not childbirth has occurred there is considerable atrophy of the vulva, especially during the first few years after the menopause, and continuing in some degree throughout the succeeding years, so that in elderly women there is a similarity in the appearance of the vulva to that of the young girl before the onset of puberty. There are some differences, however, in the texture and color of the skin, which at this time may be wrinkled over the labia majora, and have a smooth velvety appearance over the labia minora. The skin of the perineum is dry and frequently cracks as a result of the least trauma. It also has lost all of its resistance to infection and is therefore easily irritated by any discharge. If one considers that this is a physiological process, then, in certain cases, it is often difficult to differentiate it from the pathological process first described by Brisky in 1885 which he called kraurosis vulvæ.

The etiological factor responsible for conversion of the physiological atrophy to the pathological process apparently belongs to the endocrine system, inasmuch as the change always follows diminution of ovarian activity. It probably is due to an imbalance of the remaining active glands.

The average age of cases reported by Taussig was 49, with the oldest being 74, and the youngest 26. Only rarely does a vulvitis occur in negroes, which fact is accounted for by the large amount of elastic tissue present in the skin. This is repeatedly demonstrated by the infrequency of perineal tears during childbirth. There is no relation to pregnancy inasmuch as it occurs just as frequently in those who have had children as those who have not.

The most striking symptom of atrophic vulvitis is a pruritus. This is invariably present for a long time. Since it is worse at night, these patients frequently suffer from insomnia, and consequently are nervous wrecks. Burning on urination occurs when any excoriation of the skin or mucosa is present. If the process has involved the skin about the anus, defecation is painful. There is usually a vaginal discharge. Dyspareunia is present in the advanced cases. The course of the disease is a slowly progressing one, although some cases remain stationary for years. The appearance of the vulva, when that type of disease usually designated as kraurosis exists, depends upon the stage of the process. The area affected has a pale white or grayish white appearance. The labial and preputial

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folds are obliterated and flattened. The skin may be smooth or wrinkled and there may be small or larger raised areas. The integument is tough, leathery, and dry. Hairs are almost completely absent. Scratch marks

Fig. 1. Q. T., No. 76175, age 45. Onset with pruritus vulva immediately after a bilateral oöphorectomy. Rapid atrophy of vulva with thickening of the skin. Numerous fissures soon developed. Two years after onset had leukoplakic areas. Operation advised but refused. Definitely hypothyroid. Symptoms and condition improved on thyroid medication and local treatments. Typical atrophic vulvitis.

in different stages of healing are always present. Microscopically, the squamous epithelium is thinner than normal, its papillæ being short and thin, or completely flattened out. The corium is very dense, elastic fibers are absent, gland and hair follicles are wanting, blood capillaries are sparse and throughout there is considerable round cell infiltration. One is then able to account for the gross appearance—the whiteness being due to the dense anemic corium, the toughness and leathery consistency to the absence of elastic fibers, and dense corium which, in turn, accounts for the loss of glands, hair follicles, and dryness of the surface.

The microscopical picture of that type of vulvitis termed as leukoplakic vulvitis shows a greatly hypertrophied and keratinized squamous epithelium. The papillæ are larger and thicker than normal, and reach well into the corium. It appears grossly on the vulva in the form of raised white scaling patches, or, if duffuse, like meal dust. The whiteness is more intense than in kraurosis. The corium is denser than normal, but less so than in kraurosis, the blood capillaries are few in number, glands and hair follicles

Fig. 2. M. B., No. 61264, age 58. Onset seven months before admission with pruritus vulvæ, burning and soreness. Rapid progress. Bloody discharge for three weeks. Involvement of inguinal lymph glands with edema of leg for two weeks. Examination: Palpable glands in right groin. Ulceration of both labia with marked induration, marked atrophy of vulva, white and unelastic. Borderline case. Excision of vulva and resection of left inguinal glands. Progress rapidly downward—death in four months.

are sparse and atrophied, elastic tissue is decreased and there is marked round cell infiltration. The only essential difference then between kraurosis and leukoplakia is in the greater activity of the squamous epithelium in the latter, which factor has an important bearing on cancer. Some authors feel that an atrophic vulvitis terminates in either kraurosis vulva or in a leukoplakic vulvitis and from the latter cancer develops. Leukoplakic areas are always found in sections of cancer of the vulva developing on an old vulvitis if a large enough area is sectioned.

Carcinoma of the vulva varies in form depending on the point of origin of the tumor, whether epidermis, clitoris, vestibule, or Bartholin glands.

The epidermal form is by far the most common and occurs in the labial, perineal or preputial skin. This type is, in nearly every case, associated with vulvitis.

Carcinoma of the clitoris is rare. It begins directly in the glands and is very malignant. The epidermal type, starting in the

preputial folds, is frequently mistaken for that starting in the clitoris, but resembles that of carcinoma in the labia in all particulars.

Vestibular types often develop in old

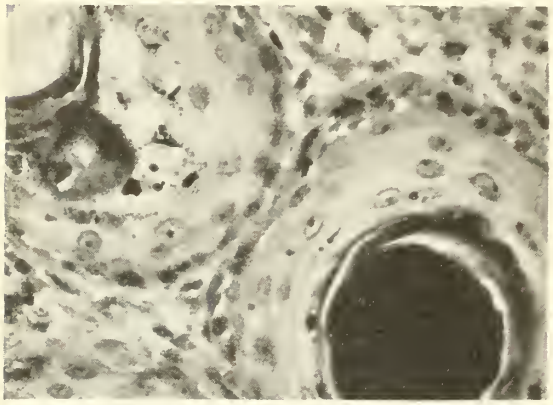

Fig. 3. Sections from Case 61264 show the tumor composed of larger and smaller masses of squamous epithelium which are well differentiated and whose centers form typical cornified tissue. Mitotic figures are present.

syphilitic ulcers. They are also very malignant and occur in relatively young persons.

Those starting in Bartholin glands may be either squamous or adenomatous and usually follow a chronic Bartholinitis.

Carcinoma of the vulva, regardless of type or location, spreads in a similar manner, first to the superficial inguinal and femoral glands, then to those glands just beyond the inguinal canal, and finally to those along the iliac vessels and aorta.

The symptoms and course of carcinoma of the vulva need no special discussion. Pruritus is always present. The ulcer produces a feeling of soreness with burning in the wound after urination. A bloody discharge is usually present, although there never is much bleeding. In the advanced cases there may be considerable pain radiating down the legs. Metastasis to the local tributary glands is relatively early, while that to the distant glands is usually late.

The treatment of the vulvitis depends on the stage of development it is in. In the early period, when the patient is complaining of pruritus, burning on urination, dyspareunia, etc., the treatment consists in stopping any vaginal discharge, or improving drainage, if there is an obstruction, in order to prevent the normal secretion from becoming stagnated and changing chemically. Any external sources of irritation present, such as parasites, condylomas, furuncules, or chemical irritants should be removed. The skin should be protected by some type of ointment. Any evident disturbance in the endocrine gland system should be corrected with special reference being paid to the thyroid. The treatment in those cases where

Fig. 4. M. P., No. 15099, age 39. Onset four years previous, with pruritus vulva followed by nodule formation, then ulceration. Punched-out ulcer on right labia. Marked involvement of left labia extending back into perineal body and filling the vagina. Inoperable. Biopsy and X-ray therapy.

definite skin changes have taken place is surgical. Operation consists in exercising any localized area, or, if the condition is widespread, a complete vulvectomy.

In the treatment of carcinoma of the vulva, Taussig states that radium is contraindicated except as palliative treatment in the inoperable cases. Graves and Smith express the same opinion. A report of the five-year end-results in irradiation of carcinoma of the vagina, vulva, clitoris, and labia from the State Institute for the Study of Malignant Diseases, at Buffalo, New York, concluded that the treatment of carcinoma of the vulva, clitoris, and labia should be radical by means of coagulation and radiation.

Taussig considers all the cases without palpable gland metastasis and most of those in which the ulcer is not too large or too deeply infiltrated and with only small glandular metastasis as operable. In these cases a complete vulvectomy with resection of both inguinal regions is done. Care must be taken that all of the leukoplakic skin is excised or a local recurrence in this affected

skin is very likely to occur. In those cases where only palliative treatment can be done, local excision of the ulcer followed by massive doses of radium or X-ray therapy is most satisfactory.

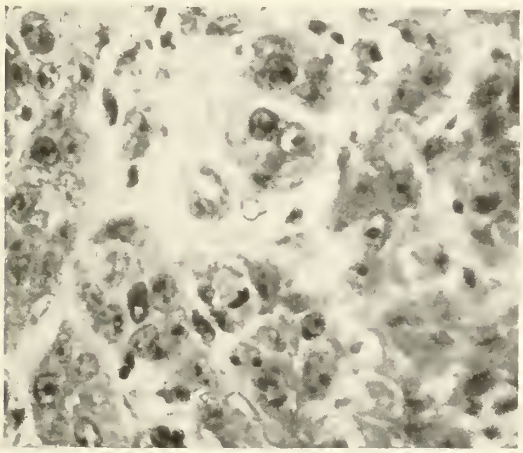

Fig. 5. Section from Case 15099. Large masses and irregular columns of epithelial cells with no differentiation. Individual cells vary in size, shape, and staining qualities. Metalic figures are abundant.

The prognosis in the cases with an atrophic vulvitis, where a complete excision of the affected area is accomplished, is good.

The prognosis in carcinoma of the vulva, if operated upon early and completely, is good. Taussig reports a series of eleven cases in which after five years 81.5 per cent were alive. Although this is a relatively small series it shows what can be done if the lesions are recognized early enough.

The gynecological department of the Henry Ford Hospital now has a series of nine cases. The average age of these patients when first seen was fifty-seven. The average duration of symptoms of the carcinoma was thirteen months. Five of the cases were inoperable and of these, three are dead, the fourth was only a recent case, and the fifth one could not be followed. Of the remaining four, one had an associated carcinoma of the breast, whose general condition would not warrant a radical operation and who is undoubtedly dead now from the carcinoma of the breast. This patient had only a local excision of the carcinoma of the vulva. The second case had a local excision of the carcinoma with a recurrence in the inguinal glands two and one half years later. These were resected one year ago and up until this time there have been no further recurrences. The third case was only recent, and was sent in by a surgeon for radium treatment. Under Taussig's classification this case was on the borderline of operability, since she had a large ulcer and definite metastasis to both inguinal regions. The last case had only a local excision with two radium treatments. This patient never returned to the Clinic and could not be followed. So, out of eight we have only one case living that might possibly be considered a cure, which again emphasizes the point that it is necessary for these patients to have treatment early. Eight of these cases developed in patients who had had an atrophic vulvitis from a few years to twenty years. The ninth, on an old syphilitic ulcer.

Five of the nine cases, according to Broder's classification, were Type I., *i.e.*, the cells were well differentiated with marked pearl formation, well formed pavement epithelium and very few mitotic figures. One belonged to Type II, in which there were fewer pearls and more mitotic figures. One was Type III, where there were no pearl formations but cells grouped in medullary nests, no pavement cells, and large numbers of mitotic cells. Two of the cases were not sectioned.

CONCLUSIONS

Pruritus vulvæ after the menopause should be carefully studied and kept under close observation.

In an atrophic vulvitis where there are definite skin changes a wide excision of all affected areas should be done.

Carcinoma of the vulva is best treated by a vulvectomy and resection of the lymphatic glands in both inguinal regions. Radium and X-rays should be used only in the inoperable cases as palliative treatment.

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THE RELATION OF PELVIC INCLINATION, LUMBAR INDEX, AND POSTURE TO OBSTETRICS*

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DETROIT

In the past a great deal has been written on the relation of pelvic inclination to the length of labor while the lumbar index has been used considerably during recent years by gynecologists in solving such problems as backache and dysmenorrhea. In our search through the literature, we found much had been written about the lumbar index in non-pregnant individuals but nothing in regard to the relation of the lumbar index and pelvic inclination to the symptoms occuring during pregnancy or the progress of labor.

We have been interested in the following problems:

(1) The relation of pelvic inclination to the length of labor.

(2) The effect of poor posture on the postpartum complaints.

(3) The existence of congenital type retroversion following delivery and its relation to utero-replacement.

The patients used in this study were from the University of Iowa Hospital, Iowa City, Iowa. Two hundred and fifty pregnant women were measured before and after delivery. Silhouetteographs were also taken to check results.

By means of the kleiseometer, an instrument invented in Germany and first used in this country by Hugo Ehrenfest, it is possible to measure accurately the pelvic inclination. This instrument offers a simple means of measuring in a reliable manner the inclination of the internal conjugate to the horizon when the patient is standing. The patient is placed in the so-called position of Meyer, both large toes and heels are held in close proximity. The two knobs on the instrument are brought in contact with the two end points of the external conjugate, then the disc is rotated until the spirit level indicates horizontal. If we now bring the instrument to any angle with the horizon we can readily measure the angle by turning the disc. The pointer shows the angle formed by the external conjugate and the horizon.

The technic used in measuring the lumbar index is as follows: Patient with back exposed assumes a natural standing attitude. A yard stick is held vertically in contact with the most prominent processes of the dorsal and sacral curvatures. The distance in millimeters from the deepest point of the lumbar curve to the inner edge of the ruler is used as an index of the degree of lumbar curvature.

In non-pregnant women a definite standard has been agreed upon for the lumbar index. Any readings between 30 and 40 are considered normal while any reading over 40 or under 25 is considered abnormal. In this series the average before delivery was 49½ while after delivery it was 37, which shows that there is an increase in the lumbar curve during the postural readjustments incident to late pregnancy. In the majority of cases, the lumbar index readings were in the low 40's and there were fewer extremely high or low indexes recorded than in postpartum or in nonpregnant women. During pregnancy with the gradual increase in the size of the abdomen, the center of gravity is thrown forward and the lumbar curve is increasingly flattened to maintain equilibrium. This variation is not outside the normal range. If the above explanation is correct, the pelvic inclination should be reversed. Readings taken before delivery averaged 42 while after delivery the average was 49. These readings show that there is about a ten point difference between readings of the lumbar index and pelvic inclination.

The average length of labor in all primipara was 17 hours and 58 minutes, while in the cases with high pelvic inclinations it was 20 hours and 20 minutes. Although it is impossible to formulate a definite relationship between pelvic inclination and the length of labor, it seems from this small series that the greater the inclination the longer the labor. When the inclination is high, the force of the uterine contractions is not applied directly down into the birth canal but is partly dissipated against the

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pelvis; so that late engagements and relatively long labors are the rule.

In considering postpartum retroversions, the lumbar index is of considerable practical value. There were fifty-one postpartum retroversions in this series, approximately 20 per cent. This is about the usual figure for postpartum retroversions. Of this number, fifteen, or about one-fourth of all the retroversions, were of the congenital type—that is, having a lumbar index of 25 or under. A lumbar index of 30 mm. marks the minimum compatible with normal anteversion. Below 25 mm., congenital retroversion may be diagnosed in nearly every case regardless of multiparity and other complicating factors. A uterus congenitally retroverted before conception will invariably resume its retroverted position after delivery. Patients with congenital retroversions will not be cured of their symptoms by mere replacement of the uterus. Over a hundred methods for the correction of utero-displacement are available, but notwithstanding faultless uterine poise these patients continue to suffer as before operation. In seeking to establish such a constant causative factor, it is necessary to recognize that the malposition does not represent simply a congenital retroversion but a congenital retroversion of the entire pelvis with resultant compensatory dystocia of the contents.

Drs. Dickinson, Miller and others have recognized posture as a very important gynecological factor and I wish to point out its relation to pregnancy, which is an extremely frequent cause of abnormal postural development. As the uterus increases in size the abdominal muscles become stretched and thinned out. With the conclusion of labor the abdominal contents suddenly are reduced. The abdominal wall at times, however, regains its tone extremely slowly. When after ten to fourteen days the patient assumes an upright posture, the abdominal wall is still relaxed, allowing the abdominal contents to prolapse into the lower abdomen and pelvis. The upper abdomen becomes flat, the chest begins to droop and the beginning stages of poor posture are established.

Static backache is about two and one-half times as frequent in the multiparous as in the primiparous women. This condition is best prevented by a series of graded exercises starting soon after the patient is delivered. We start them after 48 hours with head raising exercises and then about the eighth day have them assume the knee-chest position for five minutes night and morning. In this series, 160, or about two-thirds, complained of some degree of backache, while one-half of these had the severe type. The patients with above average lumbar index and pelvic inclination had severe backache more frequently than the others. This type of backache during pregnancy is usually best relieved with a well fitting maternity corset, and after delivery by a sacro-iliac belt.

It was impossible to gather data on the relation of pelvic inclination to perineal lacerations in primiparæ, since the variation in the bisischial diameter, performing epsiotomies, etc., complicate this problem. It does seem logical, however, that an increase in the pelvic inclination should prolong the second stage of labor by preventing complete flexion of the descending head. Delayed engagement of the head in primiparæ with normal pelvis is probably due to high pelvic inclination. There were twice as many operative deliveries in those women with a pelvic inclination above 42 as in those under this figure. The position of the fetus in utero was not markedly altered by the pelvic inclination although there was a tendency to posterior position in those with above average inclinations. The only case of transverse position occurred with a pelvic inclination really delays parturition. The

It would seem that measurement of pelvic inclination with the kleiseometer is more accurate than measurement of the lumbar index and as more work is performed with this instrument it will probably replace the lumbar index.

CONCLUSION

There are, to be sure, many factors that affect the length of labor other than pelvic inclination but it does seem as if a high inclination really delays parturition. The lumbar index is of value in the study of postpartum retroversions since it helps differentiate the congenital type, operative correction of which does not give the patient relief from her symptoms.

Physical education has in a general way pointed out the relationship between posture and various pelvic symptoms. All pregnant women have a tendency to develop poor posture following delivery and should be given a series of exercises to prevent this condition from occurring.

TRICHOMONAS VAGINALIS VAGINITIS*

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DETROIT

The literature on trichomonas vaginalis dates back to 1837, when Donné first described this organism, which was classified among the flagellated protozoa. A great many of the earlier investigators were acquainted with this organism but attributed very little significance to its presence in the vagina, and did not consider it an etiological factor in causing any symptoms. This failure to look upon it as a causative factor in producing symptoms was doubtless due to the fact that the trichomonas vaginalis was so frequently found in patients who presented no symptoms. While Donné found this organism only in patients who showed pathologic discharge, and attributed the discharge to this organism, others considered that its presence was mere coincidence, and believed the organism to be harmless. Among these latter were Neumann, Mayer and Wolfring. On the other hand, Arnold and Marchand, while considering this parasite to be harmless, believed that it existed only on pathologic mucous membrane. Our present knowledge of this condition is based on the work of Hoehne, whose report was published in 1916.

During the last two years interest in this subject in this country was stimulated by the writings of Greenhill and Davis, the latter of these having been successful in cultivating the organism in the laboratory. General knowledge and interest has grown tremendously during these last two years.

The trichomonas vaginalis is a flagellated protozoa. It has probably been overlooked frequently because its presence is not readily detected in the stained smear. It is best seen in the fresh unstained specimen. It can be readily seen in hanging-drop preparations and equally well between slide and cover glass when a drop of vaginal secretion is diluted with normal saline solution. A high power objective is necessary for this examination, and the ordinary oil immersion objective is well suited to this purpose. Under the microscope the trichomonas is seen as an oval or ovoid organism, about two or three times the size of a white blood cell, and considerably smaller than the ordinary epithelial cell found in the vaginal secretion. The trichomonas is almost transparent and may be entirely invisible if too much light is allowed to shine through the slide. At one end of the ovoid organism are flagella, two, three, or four in number. These can be seen to be in motion in the fresh specimen. Some of the organisms show a fibril along one side—the so-called undulating membrane. These organisms may be observed almost at rest with only the flagella in motion, or the organism may be included in a mass of white blood cells, and the whole mass may be somewhat in motion from the activity of the flagella. Then again the trichomonas may show marked activity and move around so rapidly that it may be difficult to follow it in the microscopic field. These organisms may remain active on the slide for a long time and on several occasions a slide or hanging-drop has shown motile organisms for several hours.

The predominant symptom in trichomonas vaginalis vaginitis is discharge. This is usually very profuse, and of a pale nile green color, and has a foamy or bubbly appearance. After examination with the speculum the withdrawn speculum usually scoops out a large amount of the discharge. and the specimen to be examined can be conveniently taken from this. The introitus and vaginal mucosa is in many cases very much irritated and reddened and often bleeds on touch. The cervix often shows reddened areas and is sometimes described as the "strawberry" cervix. The vaginal mucosa is often extremely tender and dyspareunia is a resulting symptom. In marked cases the excoriation of the external genitals may also be extreme so as to make walking a painful exercise.

The cases one discovers in one's office practice are usually cases with long standing discharge which has resisted all treatment or has persisted or recurred in spite of

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treatment. In some cases operations, such as the Sturmdorf operation, have been performed without a clearing up of the discharge. We have personally run across several such patients. We are now immediately suspicious of trichomonas infection when a patient's history reveals a dyspareunia coming on after several years of normal marital life. We are likewise suspicious of this infection whenever a patient reports treating with several physicians and obtaining no relief. Since having become cognizant of the occurrence of this infection we have recalled a few patients whom we had ourselves treated unsuccessfully for discharge, and in each of these patients we were able to demonstrate the trichomonas, and were able to relieve the patient where previously we had failed.

This condition can apparently occur at all ages, as the condition has been found before puberty and also after the menopause. It is found in virgins as well as in married women. It is found during pregnancy and probably adds to the morbidity of the puerperium. It is not a venereal disease, and in cases studied by Davis no similar infection was found in any of the husbands of these patients. Presumably the parasites can originate in the intestinal canal and be transferred to the genital tract either by carelessness at toilet, or perhaps the infection occurs just because of the close proximity of the anus to the genitals.

The treatment of trichomonas vaginalis vaginitis is far from being standardized. A variety of treatments are recommended and each writer has his personal variations as to treatment. One principle recognized by all is that the infection is persistent, and unless treatment is prolonged and thorough, recurrences are very likely. It is possible that recurrences are due not so much to insufficient treatment as due to the failure to eliminate the primary source of the infection. Since recurrences seem to come with menstruation some writers advise continuation of treatment during menstruation. The condition should be checked up from time to time during treatment by examination of the discharge for trichomonas, and local treatment should not be discontinued until negative slides are obtained at three or four successive examinations.

After experimenting with several types and varieties of treatment we have adopted more or less of a routine treatment which in our hands has given the best results.

The prophylactic treatment consists in instructing the patient to avoid contamination of the vagina from the anus by discussing with her the method of cleansing the anus after defecation. Care should be taken to avoid a sweep from the anus towards the vagina.

The local vaginal treatment consists in scrubbing the vagina thoroughly with pledgets of cotton soaked in tincture of green soap. Every part of the vagina must be scrubbed rather vigorously and all folds of mucosa stretched out and scrubbed. We prefer to use a bivalve speculum for the treatment, rotating the speculum on the axis of the vagina so as to successively reach all parts of the vaginal wall. The pledgets of cotton are held in a forceps and thus the deeper parts of the vagina can be easily reached. During the first treatments bleeding is often the result of this scrubbing, and some authors even advise scrubbing until the mucosa bleeds. The cervix is likewise scrubbed with green soap. After a thorough and vigorous scrubbing the vaginal mucosa is wiped dry with cotton and about an ounce of some glycerine solution is poured into the vagina through the speculum. A dry tampon is then inserted into the vaginal orifice to prevent the solution from escaping from the vagina. The tampon is allowed to remain in the vagina and the patient is instructed to remove it the following morning. This treatment is given twice a week. Since the external genitals may also be infected with the organism the patient is instructed to give a similar treatment to the vulva and external parts. She is advised to wash the vulva with a soapy lather twice a day, and to scrub it vigorously. After washing off the soap, she bathes the external genitals with a 50 per cent solution of glycerine.

After discontinuing the local treatment the patient is advised the daily use of a lactic acid douche (1-500). This is made up by using ʒii of the U. S. P. lactic acid solution in two quarts water. During the period that local treatment is being given, the patient may also use this douche on days when no treatment is given. This douche is continued for two or three months after discontinuing local treatment.

In virgins and small children the treat-

ment is not so satisfactory because the scrubbing must be omitted. In these cases we use a 4 per cent solution of mercurochrome and rub as vigorously as possible with applicators and cotton.

We believe the recorded frequency of this infection will increase with more general and diligent search for the organism in the fresh specimen. The condition should be suspected in all cases where the discharge has resisted treatment. A discharge that causes unusual excoriation should also suggest this condition to the physician. And finally, the development of dyspareunia in a woman who had previously lived a normal marital life should at once lead to a search for the trichomonas vaginalis.

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DERMOID CYSTS OF THE OVARY*

A BRIEF STUDY OF FIFTY CASES

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In 35,000 gynecological cases examined and recorded in the Department of Obstetrics and Gynecology of the University of Michigan Hospital there were fifty instances of dermoid cysts of the ovary, in each case confirmed by microscopic examination. These cases are reviewed with the purpose of demonstrating if possible the physiological effects produced by such growths, and their surgical importance. While this series is not as large as some reported in the literature, it is large enough to permit some conclusions to be drawn.

The classification and nomenclature of dermoid cysts has long been a matter of argument. The modern view places the dermoids and teratomata in one group, called teratomata, and to conform to this view one should speak of cystic and solid teratomata rather than dermoid cysts and teratomata. Popular scientific usage, however, persists in designating the cystic teratomata as dermoid cysts and we will conform to that usage.

The origin of these interesting tumors is still more a debatable question. While many theories have been advanced, none has been accepted by all embryologists, and the clinician can only indulge in conjectures. The cases under consideration seem to prove nothing as to the etiology of such new growths. As studies in pathology the dermoid cysts always present weird combinations of embryonic structures of chief interest as museum specimens. Two are seldom alike, and no effort will be made to list the variations, as they all have probably been duplicated numberless times.

AGE INCIDENCE

Resting in such close association with one of the most important endocrine organs one might expect serious physiological disturbances to accompany the growth of dermoid cysts of the ovary. Conversely, as the ovary passes through its various stages of activity from birth to senescence one might expect to find the structures embraced in the tumor stimulated by the physiological changes of the gonadal tissue and thus the incidence of dermoid cysts to be more frequently discovered during the period of reproductive activity. The age distribution by decades of the fifty cases appears in Table I.

TABLE I. AGE INCIDENCE BY DECADES

Decade	No. of cases
1–10 years	0
11–20 years	3
21–30 years	16
31–40 years	14
41–50 years	9
51–60 years	8
Total	50

It will be seen that no dermoids appeared in the first decade, although such have been reported. Thirty-nine (78 per

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cent) patients were operated upon between the ages of twenty-one and fifty, which roughly corresponds to the period of greatest activity of the ovarian tissue. Eight (16 per cent) occurred during the usual period of sexual decadence, which might repudiate the view that dermoids are influenced by the stimulation of the active ovary, but one cannot help but conclude that there is some apparent inter-relationship existing between the period of greatest glandular activity and the growth of the tumor.

MENSTRUATION

So much for the effect of the physiology of the gland upon the tumor; how does the tumor alter the physiology of the endocrine structures so intimately associated with it? Menstrual abnormalities might be expected to be the best index of altered physiology. A review of the cases revealed the menses to be seldom affected, and usually concomitant pathology was responsible for existing changes. In thirty-nine cases (78 per cent) the menses were established at the time of operation, in ten cases (20 per cent) the menses had ceased at the time of operation, and one patient, a thirteen year old girl (2 per cent), apparently had not menstruated.

It is often difficult to evaluate what constitutes a normal menstruation in a group because of the wide individual variations which cannot be considered abnormal for any one person. The cases as regards menstruation are shown in Table II.

TABLE II. CHARACTER OF MENSTRUAL PERIOD

	No. of Cases	Per cent
No menstrual history	1	2
Usually irregular menses	1	2
Regular menses but unusually painful	2	4
Normal menses	32	64
Abnormal menses	14	28

In one (2 per cent) the menses were not established. One patient (2 per cent) had periods which were irregular and scanty, of the hypoglandular type. Two women (4 per cent) reported regular periods but accompanied by pain of such unusual severity that they must be considered as abnormal. Thirty-two (64 per cent) reported normal and fourteen (28 per cent) had distinctly abnormal menstrual phenomena.

In the fourteen instances of disturbed catamenia there was found at the time of operation pathology which explained the deviation, with the exception of one patient who was found to be pregnant at the time of operation and who subsequently aborted. The other thirteen had the following conditions present:

Carcinoma of the fundus	3
Carcinoma of the cervix	2
Uterine fibroid	5
Dermoid with twisted pedicle	1
Dermoid of ovary with cyst of other ovary	3

Thirty-two (64 per cent) of the series had what must be considered within wide limits a normal physiological ovarian function as far as the menses can be used as an index, which would seem to indicate that dermoids alone have little tendency to disturb the menses, the frequently found 14 (28 per cent) departures being due to associated pathology.

FECUNDITY

Along with menstruation, fecundity gives an excellent indication of functional deviation. Pathology of the gonadal structures is apt to be shown by sterility. It was very interesting to study the series of cases with this point in mind, but it was found the reproductive function was comparatively free from interference. This is probably explained, as will be shown later, by the fact that dermoids of the ovary are rarely bilateral. Of the fifty cases in the group, nine occurred in unmarried women. Of the remaining forty-one only seven had never borne children. The absence of children in the seven cases was due to the following:

Pelvic tuberculosis	1
Salpingitis	1
Uterine fibroid	1
Bilateral dermoids of the ovary	1
Cause unknown	1
Recent marriage (3 weeks before operation)	1
Pregnancy followed operation	1

The remaining thirty-four patients reported one hundred fifteen full term pregnancies and twenty-five abortions. Only three of the thirty-four had never had full term pregnancies, two had one abortion each, and one had had two abortions. Pregnancies varied from one to nine, the average being 3.3 in the thirty-four. From this it would seem that sterility is not the rule in women who develop cystic teratomata of one ovary.

Laterality.—While many cases of bilateral dermoid cysts have been reported this was found only four times (8 per cent) in the series. Among the remaining forty-six patients there were several instances of small

cysts of the opposite ovary which were found at the time of operation but which were not dermoids upon microscopic examination. Infrequently, apparently, are dermoids found bilaterally.

SURGICAL IMPORTANCE

The presence of a dermoid cyst of the ovary may not materially affect certain body functions, but eventually as a result of their increased size or other complications they become of great surgical importance, presenting many difficult diagnostic problems. Usually the presence of an abdominal tumor attracts the attention of the patient.

SYMPTOMATOLOGY

Dermoid cysts of the ovary do not present any characteristic symptoms not common to other pelvic tumors. The usual symptomatology of pelvic tumors was found in the group of cases under discussion, swelling of the abdomen being perhaps the most common symptom, this being found in eight cases (16 per cent). In five (10 per cent) instances the attention of the patient was attracted by a painful tumor. Lower abdominal pain was very prominent ten times (20 per cent). Unusual vaginal discharge occurred in four patients (8 per cent). Backache, nausea, vomiting, frequency of urination, sensation of weight in pelvis and constipation were frequently found, but without characteristic regularity. Symptoms associated with pressure or the train of events following torsion of the pedicle were perhaps most common, but these are not at all characteristic of dermoids alone. These symptoms are important from a differential diagnostic standpoint but the diagnosis of the type of tumor is usually made during operation or later in the laboratory.

MALIGNANT DEGENERATION

In the differential diagnosis of any tumor the possibility of malignancy plays an important part. Malignant degeneration of dermoid ovarian cysts has been previously reported. Among the cases under observation one case was found upon microscopic examination to contain medullary squamous-celled carcinoma without extension beyond the tissue removed or elsewhere in the abdomen or pelvis. Five cases of malignancy were found, one uterine fibroid with carcinoma of the base of the bladder; and one with carcinoma of the fundus. The significant finding was that in no case could it be proved that the tumor of the ovary was the primary seat of malignant changes, although it was suspected in one instance. The only two deaths occurred in patients primarily operated for the malignancy, the dermoid cysts being incidental findings. Primary malignant degeneration of ovarian dermoids apparently is infrequent.

COMPLICATIONS

Fourteen (28 per cent) of the fifty patients operated upon had dermoid cysts unaccompanied by other complications. In the thirty-six remaining cases most of the complications encountered in gynecological surgery were found. Torsion of the pedicle occurred in five cases (10 per cent) and malignancy of the genitalia in six cases (12 per cent). Other pathology from lacerations to chronic infections were common, but no one group of associated conditions was very prominent. It is more interesting to note that in 38 patients, while there was often other pathology present, the abdominal or pelvic tumor was the reason for the patient seeking medical advice, while in the remaining twelve cases the dermoid of the ovary was found during the course of operation performed for other conditions and was not of primary importance. From this it will be seen that dermoids of the ovary are of considerable primary surgical interest.

MORTALITY AND OPERATIVE RISK

When a dermoid cyst of the ovary is diagnosticated either before or at the time of operation the question of increased risk to the patient must arise. In this series there were two operative deaths (4 per cent). Both of these patients were operated primarily for malignancy of the genital tract, the teratomata being incidental. That is not an excessive operative mortality, and it would be safe to assume that, barring conditions resulting from advanced necrosis, malignant metastasis or other concomitant pathology, the operation for dermoid cyst should not be attended by great risk for the patient.

SUMMARY AND CONCLUSIONS

1. Clinically the cases do not permit any conclusions to be made upon the etiology of dermoid cysts of the ovary.

2. Dermoids of the ovary are found most frequently during the ages corresponding to the periods of greatest sexual activity, indicating a possible endocrine stimulus as a cause of their growth after a dormant period.

3. Menstruation is unaffected in uncomplicated cases of ovarian dermoids.

4. This type of tumor is rarely bilateral, occurring only once in the series, although many cases have been reported.

5. Fecundity is not impaired.

6. Primary malignant degeneration of ovarian dermoids occurs rarely; secondary malignancy is more frequent.

7. The symptoms associated with dermoids of the ovary have no differential diagnostic value.

8. Dermoid cysts of the ovary are frequently found in conjunction with other pathology which may make them of secondary importance.

9. Dermoids per se do not increase the operative risk attendant upon this class of tumor.

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AVERTIN IN OBSTETRICS AND GYNECOLOGY*

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ANN ARBOR

Avertin, tri-brom ethylalcohol, was first produced by Duisberg and Wilstatter in 1923. Eichholtz demonstrated its anesthetic properties in 1927. Since that time over 250,000 cases have been reported in the literature of Germany, England and the United States. When first produced it was in a crystalline form and great care was necessary in preparing the drug for rectal administration. In order to make a solution it was necessary to heat the drug to about 104° F. If heated too much it broke up, dibromacetaldehyde was liberated and considerable irritation or even gangrene of the rectum resulted. We now have the avertin fluid, one cubic centimeter containing one gram of the drug. The preparation is simplified and the danger of rectal irritation practically eliminated.

The drug should be administered in a 3 per cent solution as a retention enema, the dose depending upon the age, weight and general health of the patient. Children tolerate the drug better than adults and the aged less than those in middle life. According to weight, the dose varies from 70 to 110 mgm. per kilo. The poor risks, the feeble and aged need a much smaller dose than the healthy young adult. In general, those who are hard to anesthetize by any method will need a larger dose of avertin than the feeble and poor risks.

Avertin has been used in all kinds of cases and it has been found that there are very few contraindications. The drug depresses the respiratory center, causes a fall in blood pressure and inhibits the cough reflex. Because the cough reflex is lost the drug should not be used in cases of lung abscess, bronchiectasis or pulmonary tuberculosis. Also because the drug is detoxicated in the liver it is contra-indicated in cases of liver disease.

We prepare the patient by giving a cleansing enema and 10 grains of chloretone the night before the operation. The morning before the operation no enema is given because it might not be all expelled and so prevent or retard the absorption of the drug when given. The chloretone is repeated, 10 grains being given at 6 A. M. One hour bebefore the operation ¼ grain of morphine and 1/150 grain of atropine are given. We

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have not found that the morphine causes any greater cyanosis but have found that the induction is much smoother.

The drug is given by the anesthetist and the nurse in charge in the patient's room. The patient is not told that the enema contains the anesthetic. Within three to five minutes the patient is in a deep sleep. This deep sleep lasts for one and one-half to three hours. The respirations are slow and shallow. If any cyanosis appears the respiratory center can easily be stimulated with caffeine sodium benzoate. The blood pressure may drop from 15 to 50 mm. of mercury and can always be elevated by administering ephedrine. The blood pressure, however, usually becomes stationary or may rise as soon as the operation is begun.

As soon as the patient is anesthetized, she is taken to the operating room and prepared. During the operation the anesthetist takes the blood pressure every five minutes and keeps the throat open by means of an airway.

In one hundred and four cases operated in the Gynecological Department it was necessary to use ether in only two cases. These were radical panhysterectomies for cancer of the cervix. Sixty-four had avertin only and 38 avertin and nitrous oxide. Using 75 per cent nitrous oxide and 25 per cent oxygen, one obtains the same relaxation as under deep ether anesthesia. Because the respirations are shallow there is no struggling with the bowel coils during the operation, be it an abdominal or vaginal hysterectomy. In many cases a pack was used only to protect the bowel coils from trauma.

When the patient is returned to bed an attendant should watch the patient until she recovers, for the jaw usually drops and the tongue may drop back and close the throat. As soon as the patient reacts ¼ grain of morphine is given. The patient soon falls asleep for eight to ten hours.

We have noted that there is very little nausea and vomiting and that there are very few gas pains during the convalescence, except in those cases in which the bowel has been traumatized in separating adhesions. There is a complete amnesia from the time of administration until full recovery. Lastly, the drug is neither irritating in its administration nor elimination. For the above reasons we believe the drug more nearly approaches the ideal anesthetic than any other which we have at the present time.

OBSTETRICS

We have always taught that labor is a normal process and that anything, be it drug or manipulation, which made this process abnormal, should not be used. All of the obstetrical analgesics or anesthetics have made the second stage of labor abnormal, abnormal because the patient has not been able to use her voluntary powers of expulsion.

Knowing that avertin would render the patient unconscious within three to five minutes, we began using it when the head was about to move over the perineum. Seventy mgm. per kilo of avertin in a 3 per cent solution were placed in the rectum above the fetal head. Some of the deliveries were painless and others were uncontrollable, the patient becoming greatly excited, and the head was born before the drug took effect. Reed believes that it can be used in normal obstetrics but we do not believe that it will ever be used except in hospital practice.

In abnormal labor the drug is of great value because it renders the patient unconscious very quickly and apparently has no ill effect upon the baby. By abnormal labor, we refer to forceps deliveries, versions and extractions and cesarean sections. In one cesarean section the baby did not cry immediately but the heart was beating normally and the respirations were normal.

In eclampsia we have had remarkable results. Five cases have been treated with the drug and none have had a single convulsion after its administration. Three were cases of antepartum eclampsia, one intrapartum and one postpartum. Two had at least five convulsions before admission to the hospital. The drug was given as soon as possible after admission, 70 to 90 mgm. per kilo of body weight. The patients became unconscious within a few minutes and were taken to the delivery room for an induction of labor. Labor was induced by means of a large bougie and magnesium sulphate placed in the stomach via stomach tube. The patient could not be stimulated by such manipulations. The complete effect of the avertin does not disappear for several hours and can be repeated if necessary without harm to either patient. Neither does it have any effect upon uterine contractions. These patients have gone through normal labors and

normal deliveries without further convulsions.

In the one postpartum case, the avertin solution was sent twenty miles to the physician in charge. After its administration the patient was brought to the hospital, where it was necessary to repeat the avertin.

We do not present avertin as a cure of eclampsia but as a substitute for the large doses of morphine necessary to control the convulsions. Avertinized patients cannot be stimulated into a convulsion by the passage of a stomach tube, by the induction of labor or by colonic irrigations.

CONCLUSIONS

From the observation of a small number of cases we do not believe avertin is of great value in normal obstetrics. In operative obstetrics it is of great value in producing a deep anesthesia quickly without harm to either patient. In eclampsia it is a remarkable addition to our present methods of treatment.

ECLAMPSIA—A PREVENTABLE DISEASE*

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Current medical literature frequently contains articles dealing with the subject of eclampsia. For the most part these articles deal with this or that treatment of this condition—one which each and everyone of us dreads and fears. Now and then a new theory as to its etiology is proposed, but on the whole the actual cause of eclampsia remains a mystery, its treatment variable, and its prognosis uncertain. The purpose of this paper is to make an appeal, namely that we put into practical application the knowledge we already have regarding eclampsia and the associated toxemias of pregnancy. It is not my purpose to review the literature on all the scientific aspects of this disorder or to dwell extensively upon its treatment. I do hope to present evidence accumulated over a number of years from my own private obstetrical practice, sufficient to establish the statement that eclampsia is preventable.

In September, 1928, the Michigan Department of Health published an analytical report on 819 maternal deaths in Michigan during the preceding two years. "From a public health viewpoint the outstanding facts brought out by this study . . . are the large number of deaths under thirty years of age, *the inadequacy of prenatal care* received by these mothers,"[1] and that 24 per cent of these deaths were attributed to albuminuria and convulsions—presumably pre-eclampsia and eclampsia. A few years ago, I was struck with the inadequate and time consuming practice of the usual handwritten office notes. I, therefore, devised an office record of such a nature that my findings at each prenatal observation could be recorded chronologically in a moment's time. This record becomes a graphic chart of the patient's prenatal period and adequately in-

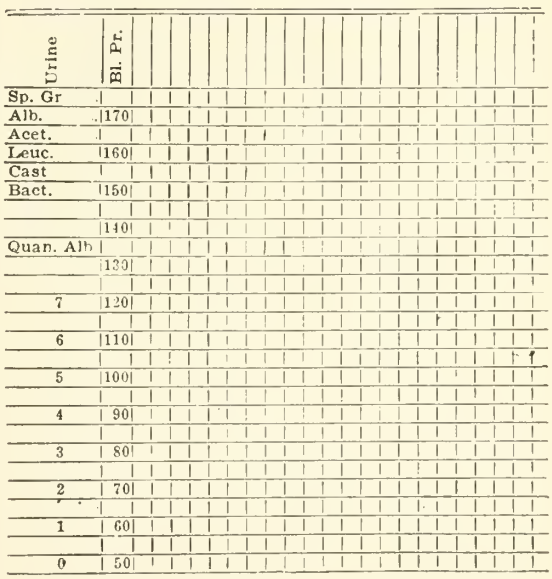

Fig. 1. This is a view of the blank chart which on my own records occupies a space 3¼ × 3½ inches. On it I record the date, urinalysis findings, blood pressure readings, pulse rate, weight and quantitative albumin when necesarry.

*This paper was presented before the Section on Gynecology and Obstetrics at the 110th Annual Meeting of the Michigan State Medical Society, held at Benton Harbor, Sept. 15, 16, 17, 1930.

†Dr. Andersen is a graduate of the University of Michigan, 1919. He was interne and resident of Blodgett Memorial Hospital, Grand Rapids, 1919-1921. He has been in private practice since 1921 confining his time to gynecology and obstetrics. He is attending obstetrician and surgeon, Blodgett Hospital, and consulting obstetrician, St. Mary's Hospital.

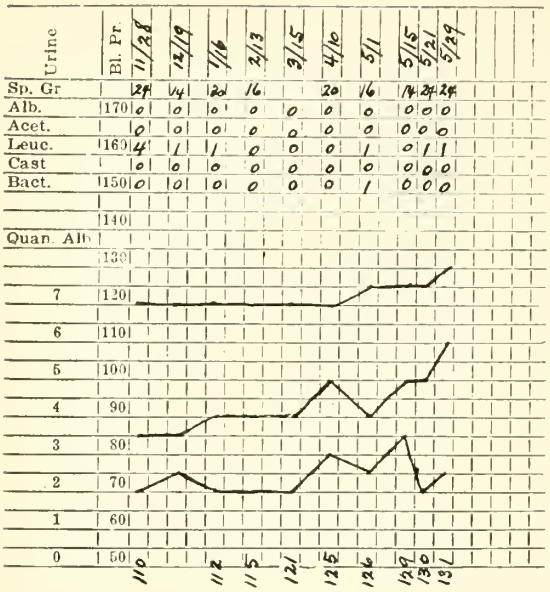

Fig. 2. The upper curve is for the systolic pressure; the middle curve (recorded in red for purposes of differentiation) is that of the pulse rate and the lower curve the diastolic pressure. This is the record of a normal pregnancy in a primipara 27 years of age. For all practical purposes the urinalyses are all normal, the blood pressure curves constant, and the pulse rate with a slow rise.

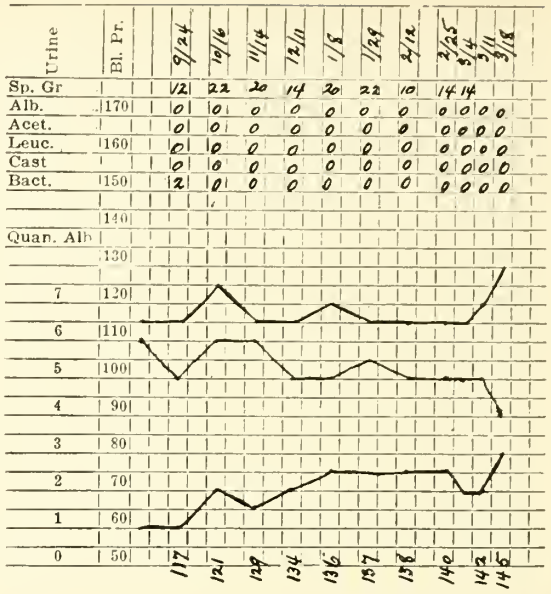

Fig. 3. This is the record of a normal pregnancy in a primipara 36 years of age. The urinalyses are all normal, and except for slight variations the blood pressure and pulse curves remain essentially level.

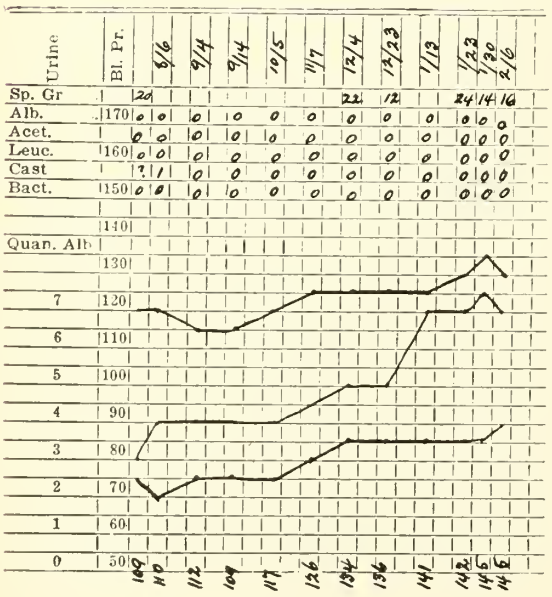

Fig. 4. This is a record of a primipara 26 years of age. The urinalyses are all entirely negative. About the middle of the pregnancy a slight rise in blood pressure occurred which never receded, and toward the end of pregnancy showed a slow gradual rise. The patient's pulse rate was quite rapid the last six weeks.

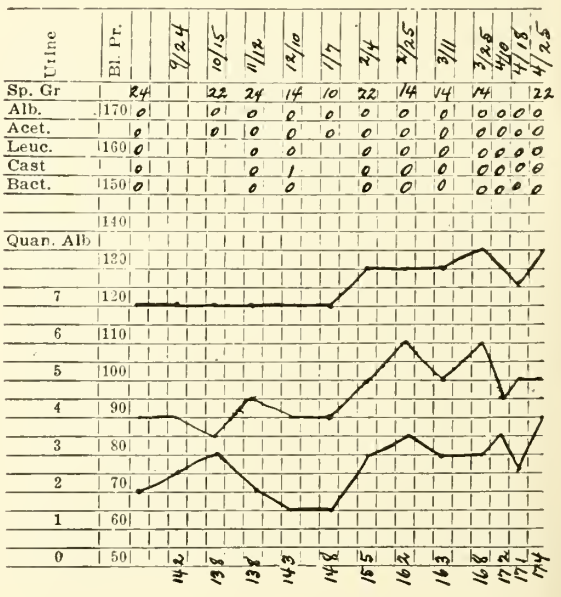

Fig. 5. This is the record of a primipara 24 years of age. Like the previous one, all urinalyses were normal, but the blood pressure curves showed a slight upward trend during the latter half of her pregnancy. Curves such as the last two occur in cases which are on the borderline of normal in spite of negative urinalyses and no subjective symptoms.

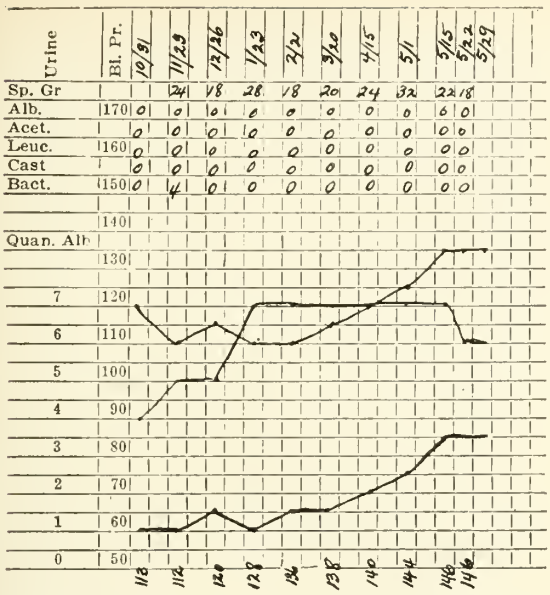

Fig 6. This is the record of a primipara 22 years of age. Here also we find all urinalyses normal, but a comparatively rapid pulse rate and definitely ascending blood pressure curves. The pregnancy terminated itself spontaneously and the patient developed no symptoms. The placenta showed evidence of toxemia.

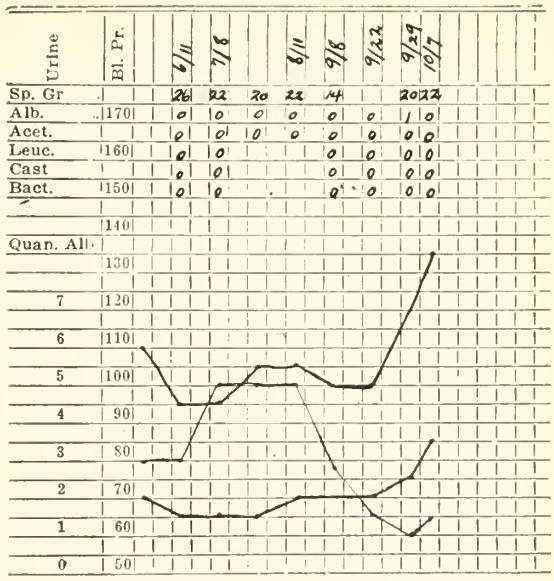

Fig. 7. This is the record of a primipara 33 years of age. There was a trace of albumin three weeks before term. Note that the systolic blood pressure went up 30 millimeters during the last month. With these findings ten days before term this patient had labor induced and developed no further evidences of toxemia.

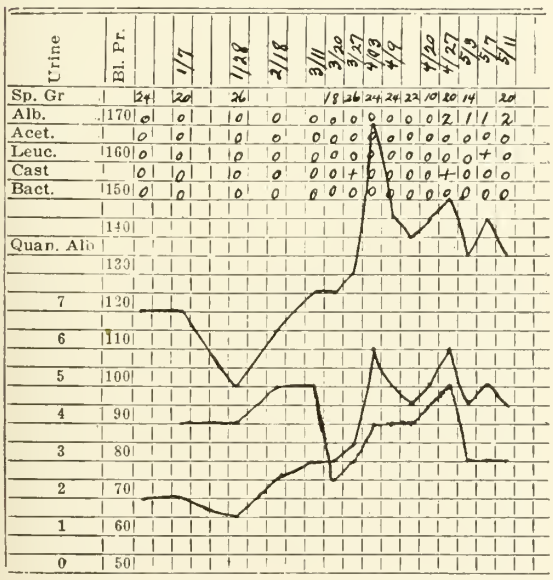

Fig. 8. This is the record of a primipara 25 years old. At about seven months gestation a few casts appeared in the urine. A slight rise in blood pressures preceded this, and the week following there was a sharp rise to 170 millimeters systolic pressure. The following week there was a drop back to 145 millimeters. Three weeks later albumin and casts appeared in the urine and the albumin persisted to the end of the pregnancy. In this case the patient was carried along on bed rest and very restricted diet to term. After a rather long labor she gave birth to a very toxic baby, which required ten to fifteen minutes of resuscitation. In this case both the mother and her baby would have been in much better condition had the pregnancy been terminated artificially about two weeks previously.

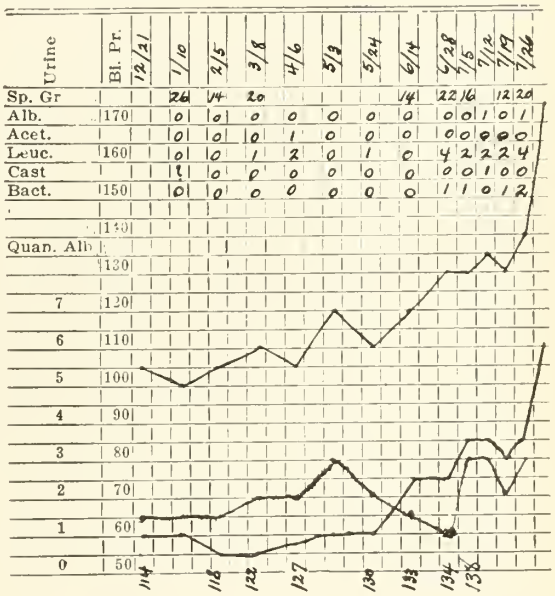

Fig. 9. This is the record of a secundipara 31 years of age. During the latter half of her pregnancy there was more or less pus in the urine at all times. Her blood pressure curves showed a gradual rise over the same period of time, and in the last month albumin and casts were present in the urine on two occasions. When this patient entered the hospital in labor her systolic pressure was 176 millimeters. A toxic headache and a systolic pressure of 180 millimeters persisted for 36 hours post-partum. I might mention in passing that this patient showed identically the same findings in both her pregnancies.

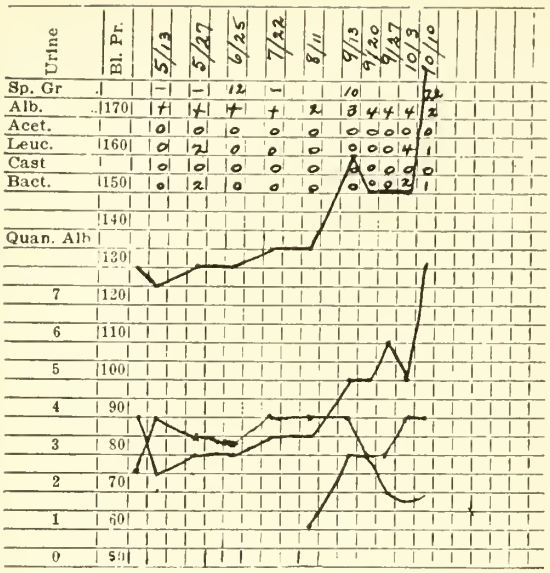

Fig. 10. This is the record of a primipara 29 years of age, with a history of chronic nephritis. Albumin was present in the urine at all times and her blood pressure early in pregnancy was about 15 millimeters above the average for her age. No particular change occurred in this patient until the end of the seventh month, when a definite increase in albumin and rise in blood pressure took place. This patient was put to bed and kept on a very restricted diet. The lower curve shows a quantitative albumin content of 1 to 3 gms. At the end of the eighth month the blood pressures definitely increased, and there was considerable edema. The pregnancy was terminated by artificial induction of labor and the mother recovered without further complications and was rewarded with a living child. These last two cases probably belonged in the nephritic group of the toxemias of pregnancy and therefore were not preeclamptics, strictly speaking. The essential point, however, is that they were not allowed to develop convulsions or give birth to toxic babies.

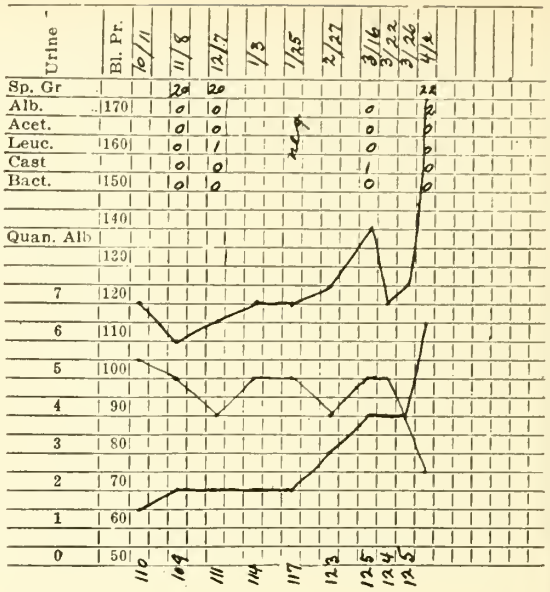

Fig. 11. This is the record of a primipara 22 years of age. She enjoyed a perfectly normal pregnancy until about 7½ months, when a few casts were noted in the urine and the blood pressures were about 20 millimeters above their previous average. Two weeks later albumin appeared in the urine and the systolic blood pressure reached 180 millimeters. This patient had no subjective symptoms and rather scorned the possibility of any impending danger. The patient having reached the end of the eighth month, we could assure her a living baby. In order to intercept the oncoming eclamptic state, labor was induced artificially, and the patient saved any further damage.

cludes all essential observations. Because it places the patient's condition before one without reviewing, and because of its simplicity this chart appeals particularly to the busy practitioner of medicine.

With the aid of a few lantern slides I would like to demonstrate its practicable application and interpretation.

These are typical records selected out of a series of two hundred cases that have been so followed through their pregnancies. I have shown you specimen records of normal, borderline, and toxic cases. Not one case of eclampsia occurred in this series of patients. My purpose has been accomplished if I have succeeded by presenting these specimen records for your consideration in making prenatal care interesting and simple, but, above all, efficient and adequate. If it is true that 75 per cent of the 819 mothers who died in Michigan in two years time had little or no prenatal care,[2] it becomes very evident that we must provide adequate prenatal care; and this care must be provided by the family physician, who cares for the greater portion of our obstetrical patients. On this I think we are all agreed. "We cannot prevent eclampsia by medical treatment because we don't know the nature of the disease, but we can often tide a patient over a threatening period for a short time until the child is viable, and then forestall the convulsions by emptying the uterus."[3]

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PHYSICAL EXAMINATION

Appearance

Head and Neck

Chest

Abdomen

Pelvis and Genitalia
In Cr..... Di-Conj. .....
In Sp..... Trans.....
In Tr..... An Post.....
Ex-C ..... Post. Sag.....

Extremities

Spine

Diagnosis, Prov.

Final

LABORATORY FINDINGS

Urine: Void, Catheter, Clear, Cloudy, Light, Dark,
Ad, Alk, Sp. Gr....., S. Alb.....,
N. Alb....., Bile....., Sugar....., Acet.....,
Casts....., Leuco....., Muc.....,
Epithel....., Salts....., Bact.....

Bld. Pr....., Pulse....., Temp....., Hema.....%

Urine	Bl. Pr.
Sp. Gr	
Alb.	170
Acet.	
Leuc.	160
Cast	
Bact.	150
	140
Quan. Alb.	
	130
7	120
6	110
5	100
4	90
3	80
2	70
1	60
0	50

Fig. 12. This last slide is a reproduction of the physical examination sheet used in my office. It is a standard 5 × 8 record and in the lower right hand corner is the portion of the record shown you in Figure 1.

OBSTETRICAL MORBIDITY*

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GRAND RAPIDS, MICHIGAN

The subject of obstetrical morbidity is one deserving of attention. We are all concerned about our mortality in obstetrical work, but I believe we have been a little too complacent about the morbidity. There is the normal case on the one hand, and at the other extreme the case which dies. Between these two there is the morbid case, the severity of which determines how nearly it will approach the mortality side. With reduction of our morbidity the influence on mortality as attached to obstetrics will show improvement.

In making an exhaustive study of a series of sixteen hundred ninety-one consecutive full term obstetrical cases between 1925 and 1929 at Blodgett Memorial Hospital, one thing which stood out was our morbidity as expressed in terms of temperature elevation during the hospital stay. Webster defines morbidity as "a departure from the normal." The previously well woman who, following confinement, is left with a retrodisplaced uterus, who has backaches, who presents fatigue symptoms, who has an endocervicitis, who becomes a semi-invalid, who comes into the class of so-called "one child sterilities," gives evidence of an existing or a pre-existing morbid state. These cases do not all of necessity have temperature elevations following the termination of labor, but a goodly percentage do. In the scope of this paper to go into all the ramifications of morbidity would be too great a tax upon your time and patience. So, while recognizing that temperature elevation is not always present in the morbidity attached to obstetrics and that we may not always recognize

*Read before the Section on Gynecology and Obstetrics at the 110th Annual meeting of the Michigan State Medical Society, held at Benton Harbor, September 15, 16, 17, 1930.

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our morbidity until after the patient leaves the hospital, yet temperature elevation is evidence of some damage having been done in a large percentage of the cases. Therefore, for purposes of this paper we will limit ourselves to a study of morbidity as expressed in terms of temperature elevation.

There is no exact standard by which to judge obstetrical morbidity. De Lee at the Chicago Lying-In Hospital classes as morbid any temperature of 100° or over at any time during the hospital stay of the puerperium. There are other figures in this country where a temperature of 100.4° on two consecutive readings following the first twenty-four hours is used as a basis. The British Medical Association standard includes all fatal cases and all cases in which the temperature exceeds 100° on any two of the bi-daily readings from the end of the first to the eighth day after delivery. In going over a series of reports dealing in morbidity in this country the more generally accepted standard is one based on a temperature of 100.4° after the first twenty-four hours.

In our series of sixteen hundred ninety-one cases we found as follows:

Temperature of 100° or above at any time after delivery	513 or 30.4 per cent
Temperature of 100° on two occasions after first 24 hours	316 or 18.7 per cent
Temperature of 100.4° on two occasions after first 24 hours	249 or 14.7 per cent

In the five hundred thirteen cases with temperature elevation of 100° or over at any time following delivery, the varying heights of temperature were as follows:

Temperature	
100.0–100.4	199
100.4–101	117
101 –102	108
102 –103	45
103 –104	23
104 –105 plus	21
	513

The day on which the temperature first arose was:

Day of delivery	113
1st day	78
2nd day	55
3rd day	111
4th day	44
5th day	29
6th day	22
7th day	16
8th day	9
9th day	15
10th day and above	21
	513

You will note that the first five days gave us 401 cases or slightly over 78 per cent of our temperature elevations.

We have tried to enumerate the causes of the temperature as well as we could by careful study of each chart and we find the apparent causes as follows:

Breasts	149
Exhaustion	55
Sapremia	50
Pyelitis	29
Intestinal intoxication	26
Cystitis	15
Bronchitis	13
Toxemia	11
Repair	7
Puerperal septicemia	5
Throat infections	4
Pneumonia	4
Phlegmasia alba dolens	3
Appendicitis	3
Sinus infection	2
Salpingitis	2
Secondary anemia	2
Thyroid toxemia	2
Tuberculosis	1
Bowel obstruction	1
Swollen glands of the neck	1
"Flu"	1
Abscess following hypo	1
Gallbladder disease	1
Cause not apparent	125
	513

Some of these causes undoubtedly are almost beyond our control, either by prenatal, natal or postnatal attention. But the majority are possible of some amelioration if we will but give them more consideration.

In looking over these figures and classifying them we can, I believe, put a large portion in three categories: (1) Exhaustion, (2) Toxic conditions, and (3) Infections.

EXHAUSTION

Experimentally it has been shown that muscular exertion will tend to slightly elevate the temperature, probably not enough, however, to produce a morbidity as we have accepted the standard, but the muscular exhaustion combined with the attendant dehydration and blood loss at the time of delivery, can without question produce an elevation of temperature. This, I believe, is productive of a good many of our temperatures the day of delivery and the day following. In going over our charts I found not an inconsiderable number which we eliminated from our figures where a definite temperature rise was recorded during delivery. Following delivery the temperature fell below our 100° standard and remained down, evidence, it seems, of the effect of the muscular exertion. We have all seen cases,

both in obstetrical work and in other work, where anemia was without doubt the cause of temperature elevation. While probably temperature elevation due to exhaustion or hemorrhage of itself is not of as much concern as some of our other causes of morbidity, yet it is important in that it may so weaken our patients and so lower their resistance that they are the more susceptible to infections of various sorts. Hence, one of our duties is to try to reduce this factor. The judicious use of morphine, the careful observation of our patients and the proper intervention and artificial aiding of delivery is important. I do not want to be thought of as one advocating too much meddlesome midwifery, for operative deliveries undoubtedly increase postpartum morbidity, but where aid is needed, the earlier it is instituted the better will be the after-results. The more cases I see the more I value aid given early in those cases where it is needed. This takes, of course, experience and mature judgment. The control of dehydration can be watched—glucose and saline immediately after delivery can do no harm if there is any question of fluid loss, and to give oftener than is necessary is to err on the safe side. Hemorrhage can be controlled to a definite degree. Patients should be watched for some time after delivery, and too much responsibility is turned over to nurses to watch for the hemorrhage. I personally try to observe my own cases for an hour to an hour and a half after delivery.

TOXIC CONDITIONS

Here prenatal care has a very definite value. Removal of possible foci of infection early in pregnancy, careful observation of the patient during the pregnancy with attention to the first signs of any toxemia and an attempt to reduce our incidence of toxemia will undoubtedly have a very definite bearing on our morbid rates. Proper elimination is important. In the group of cases listed as "no apparent cause," I feel certain that quite a number of them should be classified under "toxic conditions." Repeatedly I found under the nurses' notes on days coincident with the temperature elevation "tongue coated," then on subsequent days "tongue clear," and the temperature would be down. Was the temperature elevation due to intestinal disturbance? Consideration of this brings up several interesting things to think of—diet, catharsis, enemata, etc. Shall we put our patients on a liquid or soft diet, or shall we let them have a general diet the first twenty-four or forty-eight hours after delivery? Personally, I can see no rational reason for starving patients, or reducing their food intake after a normal labor. And what of catharsis and enemata? Does constipation of itself give rise to temperature elevation? Probably not —a full rectum may give rise to a partial obstruction of the lochial flow and thereby give rise to temperature elevation, but I do not believe that the constipation is responsible. The use of cathartics, then, is not necessary—simple saline enemas will empty the full rectum with as little irritation to the large bowel as possible. McPherson a number of years ago carried on some interesting work as relates to care of the bowels. In a consecutive series of cases, alternating first one case and administering catharsis and taking the next with no catharsis, he found that in nine hundred eleven cases without carthartics the incidence of morbidity was 5.8 per cent, but in nine hundred cases where cathartics of various types were employed the incidence of morbidity was 9.3 per cent. These cases were, of course, subject to all the other possibilities of morbidity, but in such a large series undoubtedly the other causes more or less counterbalanced each other. His conclusions were that the preferable thing was to use enemata, beginning on the third day. But given a normal case without severe lacerations is it not feasible to begin evacuations, say twenty-four hours after delivery? Daily enemata thereafter will control the elimination effectively.

INFECTIONS

This group from our findings gives rise to the largest number of cases of temperature rise. It may be divided into three general groupings:

1. Infections of the genito-urinary tract,
2. Infections of the breasts, and
3. Infections of the reproductive tract.

Pyelitis and cystitis constituted forty-four cases in our series or a little more than 8.5 per cent. This percentage is probably a little low, for there were a few cases from our "no apparent cause" group which probably would classify here. Prophylactic treatment of emptying the bladder before de-

livery by catheter is, I hope, a routine with all of us. The bladder supports will be protected and unnecessary traumatization of the bladder will be avoided. This trauma to the bladder walls must be a factor in the development of a cystitis with possibility of a later developing pyelitis. My observation has been that in some cases, especially after severe labors, although patients void spontaneously there is an incomplete emptying of the bladder due possibly to a paralyzing of the bladder walls. Would it not be a good rule to catheterize patients and determine if a residual exists? If a residual does exist appropriate irrigations could be commenced earlier with quicker results. Every catheterized specimen should be examined especially microscopically if we are to obtain the full value of the procedure. I believe that sitting patients up to void early would do no harm and would not only aid in the emptying of the bladder but would also aid the lochial flow.

Disturbances of the breasts gave rise to our largest single group, constituting about 29 per cent of our total morbidity. Some authorities state that there is no such thing as "milk fever," but we all have seen cases where as the breasts start lactation they become sore and the patient has a rise in temperature. Careful search will reveal no apparent reason for the temperature, and as the breasts feel better the temperature drops. In those cases of overly engorged breasts the use of ice caps early and the judicious pumping of the breasts will be of benefit. Proper care of the nipples is an important factor. Personally, I have found that the incidence of cracked nipples has been reduced by the use of an ointment for six or eight weeks before delivery consisting of sodium biborate, lanolin and vaseline. Allowing the baby to nurse too long on the non-functioning breast is conducive to irritated nipples with the possibility of infected breasts. While uterine contractions and stimulation of lactation are aided by the suckling baby and while the colostrum is of definite value in the early intestinal activity of the infant, yet overly long nursing is not needed for the necessary physiological stimulation. Proper support of the breasts will avoid occluded milk ducts and the attendant caking. A breast binder which does not support the breasts properly is worse than none at all. Especially is it essential that a properly fitting uplifting brassiere be advised as the patient gets up and around. This will avoid those later breast troubles which we all have seen after the patient goes home. It is unnecessary to emphasize the value of careful cleansing of the nipples and the use of sterile pads over the nipples between nursing periods.

Infections of the reproductive tract gives us our third grouping, and here we get the most serious results. Septicemia, sterility, endocervicitis all follow in its wake. Any exploration of the vaginal canal or uterus is a dangerous procedure during labor and should be avoided when possible whether for purposes of examination or delivery. Reduce examinations to a minimum and this applies, I believe, to rectal as well as vaginal examinations. I sometimes wonder if we recognize that rectal examinations are not devoid of danger. In fact, I believe if properly made that vaginal examinations carry but little more danger than rectal examinations. Pushing the vaginal wall against the cervix roughly as must be done if one is to feel a thin cervical edge by rectal examination certainly must have a tendency to stir up latent bacteria present in the vagina. Polak and Clark found but a very slight increase in morbidity in rectal versus vaginal examinations. Reis found a higher morbidity in rectal examinations. He also found a definite decrease in those cases where no examinations were made.

Proper preparation of the patient for delivery is important. Mayes found that by flooding the vagina and spraying the vulva with 4 per cent mercurochrome his morbidity was reduced 50 per cent. At the University of Michigan and at Johns Hopkins University this finding was not substantiated but recently Bessesen and Henderson have confirmed these findings.

Absolute surgical asepsis should be employed in repair work. We all know this and agree to it, but my observation has led me to believe we are apt to get careless in this respect. How many times do we attempt more or less extensive repair without adequate help—attempts at similar reconstruction later on in the woman's life would not be undertaken with as little help as is often done in the delivery room. Would it not be more reasonable to postpone extensive repairs until sufficient help is available?

The promotion of adequate uterine drainage is an important factor. Patients should

be encouraged to early moving about in bed, they should be instructed to spend part of the time on their stomachs after the first twenty-four hours. As mentioned before, having patients sitting up to void will help promote the lochial flow. After delivery and the expulsion of the placenta, expression gently of the first large blood clot from the uterus is a commendable procedure. Another but smaller clot will form. Observation has shown that patients in whom blood clots are expelled have less after-pains. Ice caps to the abdomen, Fowler's position and routine ergot are all aids in the reduction of sapremic infections. In those cases where potential infection is felt to exist the use early of a foreign protein may be of some benefit. In the Kermauner Clinic in Vienna this is a routine procedure.

Treatment of an existing endocervicitis prenatally is of value, and especially is it of value if the nature of the organism present is determined in aiding us to combat any temperature elevation.

Exploration of the vaginal canal after delivery with cervical repairs is to my mind a debatable procedure except, of course, in those cases where lacerations sufficient to cause hemorrhage have occurred. Time and reports on morbidity will determine the value of routine cervical examinations immediately after delivery.

CONCLUSIONS

1. Our morbidity is too high.
2. There is no exact standard in this country by which to judge morbidity.
3. The majority of morbid cases fall into three groups: a. Exhaustion, dehydration, hemorrhage, b. Toxic conditions, and c. Infections.
4. More careful study and prophylactic treatment will reduce our morbidity and have a decided influence on our mortality.

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AUTOMOBILES MORE FATAL THAN WAR

More lives were lost in the United States during the last year and a half as a result of automobile accidents than in the A. E. F. during a year and a half of the World War, a survey by statisticians of the Travelers Insurance Co. shows. During 18 months of the World War 50,510 members of the A. E. F. were killed in action or died of wounds. During the last 18 months 50,900 persons were killed in automobile accidents in this country.

The 1930 total of deaths from automobile accidents was 32,500, the statisticians determined from reports of 40 states. This represents an increase of more than 1,200 over the 1929 total, although gasoline consumption dropped more than one billion gallons in 1930, with consequent reduction of mileage traveled by automobiles.

"Men were behind the wheel in 93 out of every 100 cars in accidents causing deaths and non-fatal injuries in 1930, with women being the drivers in the remaining seven," the records showed. "Whether the better record of women drivers as to fatalities is due to better driving, or not being behind the wheel for as many miles as men on the average, is not indicated." In over half the fatal accidents, the drivers were between the ages of 25 and 54. In nearly a third more, the drivers were between 18 and 24 years.

One-half the automobile fatalities occurred in collisions with pedestrians, one-fifth in collisions with other automobiles and about one-tenth in collisions with fixed objects. Over half the non-fatal injuries were from collisions with other automobiles and one-third of such injuries occurred in collisions with pedestrians.

The large number of motor vehicle fatalities cannot be charged up to the automobile itself. About nine-tenths of the killed and injured were victims of automobiles in good mechanical condition at the time of the accident. Most of the automobiles involved in these accidents were private passenger cars, though this class also represents most of the total motor vehicle registration in the country.

"Three specific driving violations by operators of automobiles were responsible, in whole or in part, for 68 per cent of the 1930 accidents due to improper driving. They were exceeding the speed limit, driving on the wrong side of the road, and failing to grant right-of-way," the report stated. Violations of driving regulations by motorists played a part in over two-thirds of all the automobile accidents.—*Science Service.*

FAMOUS MEN IN MEDICAL HISTORY

EARLY AMERICAN MEDICINE AND DR. ZABDIEL BOYLSTON*

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With the first motive of our ancestors to settle in America there arose another channel whereby medicine as an art and a science might be developed. In as young a country as the United States it is a comparatively easy matter to trace the growth of science from its earliest beginning, and medicine is no exception to this rule. The historical material available is of exceptional interest to the reader of history, since the medical men of the colonial period sowed the seed for future medical progress in this country and many of them seemed to have been possessed of much ability and medical knowledge such as it was in their day.

At the opening of the seventeenth century Europe was only beginning to emerge from the darkness of the Middle Ages. Medicine had changed relatively little, save in the field of diagnosis, since the time of Galen. It was, in reality, still more of an art than a science. Medicine during the early days in the colonies received scant consideration. Like father, like child; such being the state of medicine and the medical practitioner in the old world, what else could be expected of the art and the artists when transported to the new world?

Of the English that settled in America most of them had one or several doctors in their colonies. Thus we know the name of the first physician in the first permanent settlement in this country—a Dr. Thomas Wooton, Surgeon General of the London Company and Surgeon General to Captain John Smith when his people settled at Jamestown. A short time after the settlement of his colony Dr. Walter Russell, a well trained physician, arrived, and in 1610 a third physician, named Dr. Lawrence Bohin, made his addition to the colony. Strangely enough, none of these men remained in the colony long, with the exception of Dr. Wooton and a Dr. John Pratt, who arrived from England in 1624 and was made temporary governor of the colony in 1628.

Early Virginia doctors made a beginning of one good work, the completion of which still depends on the activities of the present day physicians. They stirred up the stolid members of the Assembly in the year 1639, to pass laws regarding the regulation of medical practice. In that day methods of practice were loose and medical standards were lacking. Quackery flourished, but with little hindrance to the men with good medical training.

The rôle of doctor had been played by the priests for many centuries in Europe, and clergymen in Virginia, as well as elsewhere, were continuing to act in that capacity.

Science came to Plymouth from England in 1620, brought there by one of the Mayflower group, a Dr. Samuel Fuller, medical practitioner and divine, who died at Plymouth in 1633 of a contagious disease caught from one of his patients. He was responsible for the survival of his colonists during their first winter, due to the bneficial effects of a small drug supply which he had brought with him. Following Fuller came many other physicians to the Plymouth colony, and competition was heated from then on in a struggle for medical supremacy in that district.

In New York before 1700 there were Dutch, English, and Huguenot doctors. They differed from the New England doctors in the respect that more of them had University degrees. William Penn's colonists, who settled in Philadelphia, had with them Dr. Thomas Wynne, who was undoubtedly the most learned man who had until that time come to America. These colonists were also accompanied by two other able men, namely, Drs. Thomas Lloyd and Griffin Owen. These doctors served in ushering in the expansion of another century, and were beyond the pioneer doctors of the other colonies, both in experience and in potentialities for scientific progress.

*Read before the Victor C. Vaughan Medical History Society, University of Michigan.

On the other hand, it was an era of barbarism, though it struggled toward the light. Harvey and Descartes were living, but the former had not made his great discovery. The truth was being sought, but as yet for rude America, crudeness and error reigned forgivingly. Medicine was held in part the work of the ministers, and the statesmen also lent a helping hand. Women of that day and until the middle of the eighteenth century professed skill in drugs as well as in midwifery, and, as Mumford states it, "people called a doctor only for their dire needs."

Physicians increased gradually in number in the colonies, most of them coming from England. In 1692 there were in the colonies 134 men who were doctors in name. Many of these men were graduates of famous English schools, while others had received their training only through apprenticeship.

It is not easily determined what the colonial conditions were which called for medical service. Children were born without troubling doctors much, and after the first few years of the struggle for the survival of the fittest, ordinary trifling illnesses known to us in an overcrowded civilization were practically disregarded. The sturdy frontier folk, leading a life of exposure, much in the open and ignorant of the bane of congested living conditions, had little need for doctors except for major ills. They were educated in the rudiments, intelligent, and not afraid to work. Earnest, God-fearing men who drove the plow, read their bibles and sent their eldest son to Harvard College, and women who treasured bits of family silver, discussed the state of the elect and did their own cooking for their large families, were not likely to be the parents of dyspeptic girls or boys unable to stand the rigors of the times.

We read, however, of grievous surgical conditions and fierce epidemics sweeping over the land. Smallpox, yellow fever, typhoid fever, scurvy, dysentery, influenza and various other contagious diseases were foes with which the doctors mostly had to contend. Epidemics were most frequent in the northern colonies, where ships came in often to the larger parts.

I have already alluded to the fact that colonial doctors left obstetrics entirely to the midwife. The latter occupied perhaps the most important part in community life in the early settlements. It was beyond the dignity of the male physicians of that day to act the part of an obstetrician, and as a result women monopolized the field. This practice was continued until the middle of the eighteenth century, the first man bold enough to enter the field being Dr. John Dupuy of New York. Nothing is recorded of his practice of midwifery except in his death notice. In 1754 Dr. James Lloyd settled in Boston and was the first medical man in Massachusetts to devote his practice solely to midwifery.

The field of general medicine struggled to establish itself on a progressively scientific basis. The earliest record of an autopsy in America is found in "An Account of Two Voyages to New England," published in 1674 in London, by Dr. John Josselyn, who had spent a short time in New England. There are also on record three other autopsies which antedate the one performed on Governor Slaughter of Massachusetts, which has generally been considered to have been the first autopsy performed in this country. No useful medical essays were written before the year 1700. The doctors before that date were brave and faithful men, spending all of their time comforting the sick, with little available time to spend toward the advancement of science. Medical science developed with politics from 1700 to 1775. The contributions of the eighteenth century to which American medicine is greatly indebted are (1) the inoculation for the prevention of smallpox, (2) the beginning of American medical literature, (3) the establishment of medical schools, and (4) the establishment of hospitals.

Mumford makes this statement, "In the history of early American science great names are lacking, and great events as well, so the interest to us is not so much in the men and what they did as in what kind of men they were and the influence that they had on the future. Therein lies the value of the work of Dr. Zabdiel Boylston, a man about whom little has been handed down to us, but to whom we owe a great tribute by his projection of scientific measures toward the prevention of smallpox by means of inoculation."

In 1700 the population of North America was about 300,000; at the close in 1799, nearly four million. At the beginning of

this era, of all the foes which our ancestors faced, such as hardship, famine, pestilence, Indian and foreign wars, the most dreaded of all was smallpox. If one could have lived back for one day the life of the early seventeenth century, the dress and language of the times would not be the striking element to the doctor—it would be the pock-marked faces. Sixty per cent of the people of that period were attacked by smallpox, and ten per cent of those stricken died. Judging from the accurate descriptions of epidemics of those days the virulence of the infecting organism was probably far greater, and the disease far more malignant, than the smallpox which is known to us. Then, too, there was the ignorance of the contagion of the disease. The majority of the people felt that the epidemics were the wrath of the Lord struck upon them, and they mingled with one another with horror, not realizing that the disease could be controlled by proper isolation and prevented by inoculation.

Like most ancient diseases, smallpox originally began in the far East, probably India. The disease was believed to have been brought to Europe by returning crusaders. Soon after the time of Columbus it had spread to the western hemisphere and it was ravaging America among the Indians when the English first settled here.

Two of the most notable advances in science and the practice of medicine made in this country originated in Boston. Both received their impulses from men not strictly occupying the ranks of physicians, and from both arose notorious controversies and scandals which are without precedent in modern science. First of all, smallpox inoculation rent the profession of medicine, and society as well, and later ether anesthesia raised storm and controversy.

The former, the inoculation against smallpox, offered probably the more lively controversy. It has been the general rule that science has been opposed in its more radical advances by the clergy, but this incidence is one to which there is an exception. Reverend Cotton Mather was responsible for the introduction and partial acceptance of inoculation for smallpox in America, sponsored by the able and bold Dr. Zabdiel Boylston.

In 1721 Cotton Mather was growing old. The "Magnolia" had been written many years before, and witches had long been burned. Still his active mind was concerned with the scientific issues of the day. He was in the habit of borrowing scientific papers from doctors of Boston. He had borrowed two volumes of "Philosophical Translations" from Dr. Douglas, a prominent Boston physician. Several articles therein gave account of the method and successful results of the treatment of smallpox in Turkey, Africa and neighboring countries by inoculating healthy individuals with the disease. This brought Reverend Mather to question his slave, Oresimus, who informed him that he had been successfully inoculated in Africa and that it was a common practice in his country.

Towards the end of April of that same year Boston for the sixth time was invaded by this dreadful disease, being brought in by a ship from the Tortugas. The population of the city was at that time approximately 11,000 people. After the epidemic the population was 10,567. The smallpox decumbitents had been 5,989, of whom 894 had died. The epidemic increased in severity throughout the fall and winter, until the following January, spreading in the meantime to several neighboring towns.

Cotton Mather was becoming very concerned over the fact that his two sons were liable to acquire the disease. He was quick to see the bearing of the articles written in "Philosophical Translations" upon the existing conditions. He prepared a letter to the physicians of Boston, giving an abstract of these communications and suggesting some action. Dr. Douglas was aggrieved that Mather, a clergyman, should borrow his books and select therefrom excerpts on medical subjects and recommend them to the physicians of Boston without consulting first the owner of the book. Before Douglas could call a meeting of the physicians and report, Dr. Boylston had been privately induced by Mather to make the trial. The epidemic was spreading rapidly. People, among others Mrs. Boylston, were leaving town to avoid the risk of contagion. The letter received from Reverend Mather must have had a very decisive effect on Dr. Boylston's conduct. It contained the following statement, "If upon mature deliberation you should think inoculation an advisable operation to be proceeded in, it may save many lives that we set a great value on." He was aware of the fact that by virtue of his occupation his household was especially ex-

posed to contagion. Intelligent, experienced, skillful, encouraged and supported by an influential citizen of the community, he undertook the experiment of inoculation on June 26, 1721. He could not inoculate himself, since he had suffered from smallpox some 19 years previously, but was so convinced of the merits of the operation that he inoculated his six-year-old son, Thomas, and two negro slaves of his household, one 35 years old and the other two years old.

Although twice called to account by those in authority, "The Selectmen of Boston," for continuing the practice, he inoculated his 13-year-old son on July 17, and four days later had seven inoculated patients under his care, whom he invited fellow physicians to see. The most prominent physicians at that time in Boston were Doctors Archibald, Clark, Cutler, Dalhonde, Davis, Douglas, Perkins, Williams and White. Dr. White was the only one of this group to accept the invitation. Dr. Dalhonde testified as to the ill effects of several deaths due to inoculation and a committee of the authorities drew up a series of resolutions based upon his testimony to condemn the practice. For a fortnight the inoculations were discontinued and then they were resumed in increasing numbers, despite the opposition of various doctors and town authorities. Dr. Boylston was supported by the leading clergymen of the town, who wrote "tracts" in his favor and distributed them freely about town. Some of the clergymen saw his patients and advised their parishioners to undergo the inoculation, and many of them were themselves inoculated.

According to Reverend Cotton Mather, "the town had become almost an hell upon earth. A city full of lies and murders and blasphemies as far as wishes and speeches could render it so; Satan seemed to take a strange possession of it in the epidemic rage against that notable and powerful and successful way of saving the lives of people from the dangers of smallpox."

As the epidemic increased in severity, so did the number of people that were inoculated. The better educated and the more intelligent people were in favor of the method, but people at large were in violent opposition.

The simultaneous introduction of inoculation against smallpox in England, although met with decided opposition, was not attended with such excitement and fear as it was in Boston. There is no evidence to warrant the belief that Boylston knew of the inoculations carried out the preceding April in London at Lady Mary Wortley Montague's instigation, a fact which lends still more honor upon the man under discussion.

The resistance of the fallacious beliefs and suspicions against inoculation were gradually broken, through the efforts of Dr. Boylston and his colleagues. Hutchinson, in his History of Massachusetts, states that in "1721 and '22 Dr. Boylston inoculated 247 persons against smallpox, and 39 were inoculated by others in Boston and vicinity. Of those inoculated, six died, but some of these were infected before having been inoculated. During the same period 5,759 had the disease, and 844 died, and many of those that recovered were left with broken constitutions and disfigured countenances."

Incredible persecution befell Dr. Boylston and his supporters. The newspapers, especially the New England Courant, edited by the Franklins, and even the legislature, were opposed to the practice of inoculation. There resulted one of the most heated pamphlets and newspaper wars ever waged in the United States until the twentieth century. Dr. Boylston was assaulted in the streets, attempts were made to burn his home, a bomb was thrown into the parlor of his house, through an open window where his wife and children were sitting, and during the peak of the excitement it was not safe for him to be seen upon the streets during the daytime, he being forced to visit his patients at midnight, and even in disguise. Feeling against him became so intense that he was forced to edit several pamphlets. These pamphlets were probably joint contributions, written by Mather with the material furnished by Boylston, yet they served their purpose by reporting the progress of the work on inoculation.

The practice of inoculation had become so well established that in the epidemic of 1728 and 1730, which was imported from Ireland, the Selectmen of Boston had changed their sentiments and recommended the use of this precaution to protect the inhabitants of their city. Of the physicians who had originally opposed inoculation, Dr. Williams entered upon its practice in the year 1730 "with the utmost of caution." He acknowledged that inoculated smallpox was

much more mild in its effects than when it was accidentally received. In the latter years of his life he became a more ardent advocate of the practice.

In 1752 another epidemic of smallpox occurred in Boston. Of the 15,734 people living in the city at that time, 1,800 fled through fear, and of the remaining number, 7,653 had smallpox, of which 2,109 were inoculated. The mortality among those not inoculated was nearly one in eleven, while of those inoculated one in 68.

Of Dr. Zabdiel Boylston, John Quincy Adams said in his inaugural oration, when installing Boylston professor of Rhetoric and Oratory at Johns Hopkins University, "a name which, if public benefits can impart a title to remembrance, New England will not easily forget; a name to the benevolence, public spirit and genuine patriotism of which this university, the neighboring metropolis, and this whole nation have long had, and still have, many reasons to attest; a name less distinguished by stations of splendor than by deeds of virtue; and better known to these people by blessings enjoyed than by favors granted: a name, in fine, which if not encircled with external radiance of popularity brightly beams with the inward lustre of beneficence."

The Boylstons were descendants of Dr. Thomas Boylston, who, at the age of 20 years, came to America in 1635 and settled at Watertown, Massachusetts. His son, Thomas, born in 1644, married Mary Gardner of Muddy River, then a part of Boston, and later set off as the town of Brookline. This Thomas was the earliest physician and surgeon of Muddy River. He died in 1695, at the age of 50 years. He is believed to have received his training in the Narragansett war, in which he took part. Thatcher makes a statement that he was a native of England and received his training from Oxford. In his married life of 30 years there were born 12 children, the sixth being Zabdiel, in whom we are particularly interested. Although other descendants of the first Thomas Boylston have through their benefactions and achievements been more immediately concerned with conferring popular distinctions upon the name, it is especially among physicians that the name and fame of Bolyston should be connected closest with the memory of the most meritorious physicians of his day in America. Zabdiel was a medical hero of service to all mankind, and his example should be forever memorable.

Zabdiel Boylston was born March 9, 1679. He was educated in medicine by his father and Dr. Cutler, a physician of some note in Boston. Little is known of his early life except that he was a most diligent worker and that as a youth he always acted much older than his chronological years. He was married on January 18, 1705, to Miss Jerusha Minot of Boston, a very attractive and sensible girl, and by this marriage there were born six children. In a few years of practice in Boston under very favorable circumstances, he arrived at great distinction and had accumulated a handsome fortune.

He had been led under the direction of his father to the study of botany and natural history, which he so successfully cultivated as to establish a correspondence with several learned societies and eminent individuals in England, especially Sir Hans Sloane, president of the Royal Society, who was later to become influential in bringing added distinction upon Dr. Boylston. In order to illustrate the subjects on which he wrote, Dr. Boylston spared no labor or expense in obtaining rare plants and animals, and through his efforts along this line he acquired considerable distinction as a naturalist.

It is intimated in a communication of the Boston News Letter of July 17, 1721, that Boylston was also a surgeon. Further evidence of his surgical ability appeared in "Providence Laws," but whatever may have been the other medical and surgical qualifications, they are wholly subordinate to his great work in the beginning and continuation of the inoculation for smallpox.

Boylston was invited by Sir Hans Sloane to come to England, since the former was then the inoculator with the largest individual experience, although his publications on the subject were few and brief. While in England, from 1724 to 1726, Dr. Boylston was honored by being introduced to the Royal Family, and he also received flattering attention and friendship of many distinguished characters. He was so well liked by all who met him that he was frequently solicited to settle in England, but through love for his fatherland declined all offers. Sir Hans urged him, while in England, to publish an account of his experiences, to

which Dr. Boylston gladly responded and presented his account to the Royal College of Physicians. His account showed that he had kept very careful records of everything he had done. In his paper, the results published were logically set forth and clearly tabulated, and the work was in every way a masterly clinical presentation, the first of its kind from an American physician. He was later made a member of the Royal College of physicians in July, 1726. Dr. Boylston had the paper which he had published in England reprinted after his return to Boston in October, 1726. Later, in the year 1730, he published a second "Historical Account."

Dr. Boylston had a strong and reflecting mind and acute discernment. His character was of unimpeachable integrity. He was charitable in his opinion of others and forgiving of his bitterest enemies. He was not disposed to dogmatize on any subject, but communicated his extensive knowledge in the most free manner. These qualities caused his society and friendship to be much sought.

Upon his return from England he resumed his practice, which was in great demand after the great reception he had received abroad. One individual stated in a letter that "Every practicioner gives him preference to Douglas, his old rival, in curing disease." Thus he lived to see inoculation well established and successful, and to know that he was recognized as one of the world's greatest benefactors.

In 1736 Dr. Bolyston bought the homestead of his brother Peter, once his father's. After its purchase he built a mansion which still stands in excellent condition and is now the residence of Mr. George Lee (1910).

It is known that he continued to practice medicine until past 70 years of age, since in the Boston Public Library is a certificate which he gave to a Thomas Fleet in November, 1752, stating that the physical disability of the latter was such as to prevent his being exposed as a watchman in bad weather. That library also possesses a receipt from him for medicines and attendance dated Boston, April 23, 1753. It is believed that he resided interruptedly in Brookline during this period. After retiring he devoted himself to the cultivation of his farm and the pursuit of his favorite studies (Botany and Natural Science). Among his agricultural occupations he displayed tremendous interest in improving the breed of domestic animals, especially horses. Thatcher states that at the age of 84 he was seen in Boston riding a thoroughbred colt which he was breaking.

His health was often interrupted by severe attacks of asthma during the last forty years of his life. He passed his last days with the dignity which ever accompanies those who have acted their part well in life. He met death with calmness and perfect resignation at the age of 87 years, enfeebled by age and disease, saying, "My work in this world is done and my hopes of futurity are brightened."

Inscribed on his tomb in the old cemetery at Brookline are the words, "Sacred to the memory of Zabdiel Boylston, Esq., Physician and Fellow of the Royal Society, who first introduced the practice of inoculation into America. Through a life of extensive benevolence he was always faithful to his word, just in his dealings, affable in his manners and after a long sickness in which he was exemplary of his patience and resignation to his Maker, he quitted this mortal life in a just expectation of a happy immortality on March 1, 1766."

The College of Cambridge has a medical department of 3,783 books founded in 1802 by Ward Nicholas Boylston, who gave a valuable collection of 1,100 books as a special tribute to his uncle Zabdiel.

OF GENERAL MEDICAL AND SURGICAL INTEREST

PERSONALITY RELATED TO SUSCEPTIBILITY TO DISEASE

Susceptibility to certain diseases goes hand in hand with certain types of personality, Dr. Walter Freeman of St. Elizabeth's Hospital, Washington, D. C., told members of the American College of Physicians at the Minneapolis meeting.

This fact, learned from 1,400 post-mortem examinations made at the government hospital for mental diseases, should help physicians treating patients who are not confined to such institutions, because personality types are the same inside and outside of these institutions. They are more exaggerated in patients inside the institutions, but Dr. Freeman told the assembled physicians methods and questions by which they might easily determine to which type their patients belonged.

Persons of the quiet, retiring personality type, who are given to day-dreaming and who are happiest living a routine existence, are especially apt to have tuberculosis, Dr. Freeman found. He called this type schizoid. Cancer was found most often and tuberculosis least often in the paranoid type; this is the type that is moody, grouchy, quarrelsome and suspicious. The cycloid type, who is the "good fellow," with hosts of friends and innumerable activities and interests, appears to be most susceptible to diseases of the heart, kidneys and blood vessels. The fourth type, the epileptoid, characterized by convulsions or sudden fits of temper or migraine, is most apt to have diseases in which the structures of the brain and glands of internal secretion are affected. Cancer, on the other hand, is a rarity in such individuals.

Dr. Freeman explained the relation between personality types and susceptibility to disease by the theory that a personality which will respond in a certain way to a psychological insult will respond similarly to a bacterial or chemical insult. The psychological insult may send the patient to a hospital for mental diseases, while the chemical or bacterial insult may send him to another hospital for the treatment of tuberculosis or heart disease.—Science Service.

OBESITY AND DIABETES

The following is an editorial which appeared in the *Journal of the American Medical Association.* Doubtless it has been read by a great many of our members. The subject, however, strikes us as of sufficient importance to reproduce the editorial in full, inasmuch as obesity appears to be on the increase in this automobile and machine age.

"Widespread interest in the manifestations of overweight, or obesity, in man belongs to comparatively modern times. A distinguished German clinician, the late Professor Ebstein, once grouped fat persons into three categories: those who inspire envy, those who occasion laughter, and those who call forth sympathy. An American colleague has added that fashions in this country are such today that the first group no longer exists. There have, of course, always been instances in which discomforts of undue bodily size awakened concern on the part of the obese and promoted measures for suitable relief. A more serious attitude has been developed in recent years by the publication of statistics gathered by life insurance actuaries indicating an apparent penalty for overweight.

"The experience of life insurance companies shows that weight, especially in relation to age, is an important factor in longevity. Of course, due regard must be had to the framework and general physical structure of the individual—to his natural "build." The lowest mortality is found among those who average, as a group, a few pounds over the average weight before age 35 and a few pounds under the average weight after age 35. That is, after the age of 35 overweight is associated with an increasingly high death rate and at middle life it becomes a real menace to health, either by reason of its mere presence as a physical handicap or because of the faulty living habits that are often responsible for its development.[1]

"The apparent relation of diabetes to obesity is another feature that has brought overweight within the realm of thought of many persons. In the presence of wasting disease or of undernutrition, diabetes is practically unknown. Persons who habitually overeat are especially prone to diabetes. Joslin, among many others, has been particularly insistent for many years that diabetes is largely a penalty of obesity. The warning has been broadcast widely. It seems to be substantiated by much statistical evidence. Perhaps, as has been suggested, in the next generation one may be almost ashamed to have diabetes. McLester[2] has pointed out that the relation of obesity to diabetes is probably not due to a similarity of metabolic disturbance, as was formerly thought, but rather to the fact that obesity leads to lipomatosis of the pancreas, which in turn is associated with a diminution of parenchymal tissue.[3] A further and perhaps more momentous inroad on national overweight is due to the fact that among women, at least, it is today stylish to be thin. This is in contrast to the days when 'high nutrition' was supposed to represent bodily fitness.

"The attempt to relegate obesity into the category of specific disease is now meeting with little favor. The storage of fat appears to be primarily a feature of metabolic bookkeeping—an indication of the favorable balance between energy intake and the actual requirement of food fuel. There are doubtless instances of physiologic anomalies or pathologic processes leading, as in some endocrine disorders, toward obesity. These are certainly in the small minority. As Taylor[4] recently pointed out, the body weight at any time after childhood (excluding disease) represents the balance of three factors: the amount of food ingested, the amount of body heat lost by radiation, and the amount of muscular work (and exercise) done.

"Living conditions of the present day have been conducive to the reduction of muscular work and exposure. Appetite has not declined accordingly; nor has the ready availability of food in a day of higher standards of living. The outcome is one that must be faced frankly. Taylor has summarized the situation convincingly:

> "There are instinctive impulses and physiological tendencies in the direction of overweight, which will prevail unless restrained or counteracted. We live in economic circumstances which permit an easy functioning of the influences making for overweight. The national income is rising. The proportion of the national income required to cover the retail cost of the food supply is relatively small. Foodstuffs are available in extraordinary variety and profusion. The per capita food requirement is declining. Economic restraint on eating is lacking except in the poorest classes. Under these circumstances, the probability of average overweight is increasing. Unless restrained, a decade hence the average overweight of people over forty will be significantly higher than it is today; the effect of overweight upon incidence of disease and upon the death rate will become more conspicuous. The solution does not lie in sports or physical exercise. Four factors are to be looked forward to as restraining influences: education in nutrition, medical precept, life insurance admonition, and style. And the greatest of these, probably is style."

PNEUMONOCONIOSIS: DELAYED DEVELOPMENT OF SYMPTOMS

James A. Britton and Jerome R. Head, Chicago, call attention to the fact that most clinical and statistical studies of silicosis have been made on groups of men still employed in dusty trades. From such statistics one cannot say what is the late effect of short exposures. The authors report four cases of silicosis or silicosis and tuberculosis which developed many years after relatively short exposures. These instances suggest the necessity of revising the conception of the length of exposure necessary to produce the disease and make it seem probable that after relatively short exposures sufficient dust may be deposited in the lungs to set up a progressive fibrosis, which only after many years becomes sufficiently extensive to produce symptoms. They tend to indicate that men in the work develop symptoms only after many years of exposure, not because that length of exposure is necessary but because it takes a long time for the disease to develop.—*Journal A. M. A.*

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SEPTEMBER, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

HISTORY OF SCIENCE A NEGLECTED SUBJECT

An interesting discussion of an international character took place in London recently when the International Science Congress became suddenly aware that history had not given scientific achievement due prominence. History has meant for the most part *political history,* and little attention has been paid to scientific contributions from time to time. Most historians refer to Newton as master of the mint, a minor political position he held during his lifetime, notwithstanding the fact that his contributions in the realm of physics and mathematics made possible discoveries that have revolutionized human society. The question arose as to the relative value to mankind of contributions of the scientist and those of the statesman. It can be said truthfully that every war that has darkened the pages of history is evidence of failure of statesmanship. Of recent years statesmanship in most civilized countries has stood helpless so far as meeting even a fair solution of the political and economic problems which are properly its field.

On the other hand many and perhaps the most perplexing problems statesmanship is called upon to solve, have arisen out of the contributions of science. The invention of the steam engine and the industrial revolution which affected all western countries have produced a condition which statesmanship has never been able to control, with all its juggling of tariffs and immigration laws and foreign trade. The invention of the steam engine in 1769 has set in motion a vast series of inventions that today promise to eliminate man to a very large extent from earning his daily bread by the sweat of his brow. Whether this situation in which we find ourselves today is good or bad is not the question. The fact is that science has not only affected our lives, but the lives of the most sequestered inhabitants of the earth are caught up in the maelstrom of scientific progress.

Medicine has played its part. Discoveries in medical science and their application to sanitation have resulted in the prolongation of life and thereby have increased the population of the world.

A notable contribution to the discussion regarding the relative importance of statesmanship and science was made by the Soviet delegates to the Congress. The position taken by Soviet historians was to the effect that scientists have been more important than statesmen in modern history, but that general social and economic forces have been immensely more influential than either. It should be evident to every thinking person that, directly or indirectly, social and economic problems of the present day grow out of the fact that we are living in a machine age.

Regarding the space given to scientific evolution in our histories, more may be expected from the present and the future historian than was given by historians in the past. The present day historian has adopted the scientific method. In the future, wars

will be written down as evidences of failure of statesmanship, and scientific achievement will be given its proper place in the annals of the nation.

A GYNECOLOGIC AND OBSTETRIC NUMBER

The present number of the Journal of the Michigan State Medical Society is largely devoted to obstetrics and gynecology, the papers read at the last annual meeting of the Michigan State Medical Society, at Benton Harbor. We have refrained in the past from devoting any single number of the Journal entirely to any particular department of medicine or surgery, the object being to publish a medical journal of general interest to the profession. The subject of obstetrics and gynecology is of such universal interest to the physician in general practice that no apology need be offered to that large group of our members. We might also include that these papers will appeal to the general surgeon as well as the physician devoting his time entirely to either gynecology or obstetrics. One of the number, that dealing with Roentgen Diagnosis in Gynecology and Obstetrics, will include the fairly large group of roentgenologists of the State.

We are sure that for once in the twelve months the otolaryngologist, ophthalmologist, internist, the urologist and the rest will forgive us for monopolizing the Journal with a field that is somewhat outside of their immediate interests.

MALPRACTICE

Services rendered to their members by the County and State Medical Societies are difficult to properly evaluate. There is one feature, however, that we will emphasize at this time, and that is the service rendered by the Medico-Legal Committee of the Michigan State Medical Society. As is well known, the Michigan State Medical Society will defend any of its members who may require such defense through to the supreme court. This feature alone is worth the fee for membership in the County and State Societies. The medical society, however, does not undertake to pay damages should the case be lost. This is a matter for an insurance company, of which there are many that assume such obligations for their policyholders. There seems to be a misunderstanding, however, in the minds of some members of the medical profession as to the meaning of the term *malpractice*. Malpractice means *mal*-practice or *bad* practice. The term is limited to charges of bad or incompetent practice of one's profession —nothing else. And here we might say that what is malpractice or bad practice from the viewpoint of the patient or client, as he becomes, may be perfectly good practice so far as medicine and surgery are concerned, though the final result may be far from what either patient or physician might desire. The results of treatment cannot and should never be guaranteed. There are certain accusations, however, which patients may and occasionally do bring against physicians that do not properly come under the heading of malpractice. We might mention one or two. First, breach of contract. The physician is engaged for a confinement. He accepts the engagement in good faith and renders service during the period of gestation, but when called to the confinement, he happens to be engaged, either attending an accident, another confinement or in a surgical operation—all necessary and good reasons for not being present. The obstetrician, however, should have an understanding with the family that in the case of his inability to be present at the confinement, another doctor designated by him should be called. A complaint is made and suit started because the doctor failed to put in an appearance when called. This is, strictly speaking, not malpractice or bad practice, and does not therefore come within the pale of medical defense. Again, a complaint may be made and suit entered into against a physician, which complaint might be brought against any man not a physician. Such, it goes without saying, does not properly come under the category of malpractice as defined. Another thing to be kept in mind is that physicians employed on salary at hospitals or by industrial corporations are personally responsible for their own defense in charges of alleged malpractice. Any other employee of a corporation not a hospital who does damage is personally free. The corporation can be sued. But in case of doctors, even though they may be giving their services free in a hospital or a free clinic as many of

them do, they are responsible for any act or proceeding in which the patient may prove damage.

The Chairman of the Medico-Legal Committee, to whom we submitted this editorial has suggested that we strongly impress upon the profession that they should never undertake to care for a fracture or suspected fracture or sprain without an X-ray examination. In fact, several should be made to check from time to time the progress of repair.

We again call attention to an editorial on the subject which appeared in this Journal in April, 1930, in which we quote at length from a letter from Mr. Barbour, the attorney for the Medico-Legal Committee of the Michigan State Medical Society.

Those who carry policies in regular medical protective insurance companies will do well to read their policies carefully so they may know clearly their rights under their policies.

ADDISON'S DISEASE*

The suprarenal glands were apparently not known to the ancient anatomists as no account of them is to be found in the medical records before the sixteenth century. The first account of the suprarenal glands we have is that of Bartholomaeus Sanctoseverinatus, better known as Eustachius in 1563. "I judged it agreeable in this place," said he, "to write on certain glands of the kidney negligently passed over by other anatomists. For in the upper part of the kidney these glandulæ cling. . . . Its (the gland's) substance and its shape scarcely agree with those of the kidney; although often depressed it may be so broad that it would seem rather to belong to the placenta than to the kidney; its length is two fingers wide and its thickness medium." He goes on to note the inequality in size between the right and left suprarenal. Piccolomini, who described them in 1586, regarded them as a kind of accessory kidney. A number of anatomists of the seventeenth century tried their hand at these mysterious bodies, chiefly guessing what their function might be. A hundred years ago the French anatomist Cailau declared that men of his day were no further advanced in regard to discovering the function of the suprarenal glands than clinicians were in the time of the famous Eustachius. Winslow described the suprarenal glands, their relation and blood supply in detail but did not attempt to determine their function. The early nineteenth century witnessed comparative anatomical studies on the suprarenals the credit for which is due chiefly to Meckel, who was one of the first to recognize the relation between glandular activity and general tissue metabolism. The histology of the gland was not described until 1848, when it was studied by Ecker, whose contribution consisted in recognizing a similarity of the structure of the suprarenals to that of secretory glands. He also described in detail the cortex and the medulla.

Addison's famous description was given in 1855. Six years before this he read a paper before the South London Medical Society on anemia and disease of the suprarenal capsules. His mature findings on the subject, according to Rowntree and Snell, form one of the greatest classics of English medicine. The monograph by Rowntree and Snell contains in full the original description.

Subsequent research has justified Addison's contention that the disease syndrome which bears his name is tuberculous in character but does not verify his belief that the causative factor is neoplasm. Rowntree and Snell have made a detailed study of 108 cases in which a positive diagnosis of Addison's disease was made, in 31 of which the diagnosis was confirmed by autopsy. The 108 cases were taken from the records of 696,789 patients who registered at the Mayo Clinic for a period of twenty-two years, or a ratio of 1 to 6,450 patients. The incidence of the disease has been constant from year to year. In spite of the tuberculous origin of Addison's disease patients rarely go to tuberculosis sanitariums for treatment. It is not often associated with tuberculosis, for, of ninety cases examined by the X-rays, active tuberculosis was found in ten cases and healed tuberculosis in eight.

This little monograph is an exhaustive study of Addison's disease and well worth serious study since it treats of the subject in all its known phases.

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*A Clinical Study of Addison's Disease by Leonard G. Rowntree, M.D., and Albert M. Snell, M.D., Division of Medicine, the Mayo Clinic and the Mayo Foundation, Rochester, Minnesota. Illustrated. Price $4.00. Philadelphia & London, 1931. W. B. Saunders Company.

AUTOMOBILE ACCIDENTS

The re-registration of automobile drivers should afford an opportunity to eliminate careless and incompetent drivers. It is doubtful, however, whether the re-registering plan will result in any marked diminution of road accidents. An opportunity will be had to check up on vision, particularly color-blindness; but there are so many other factors which go into the making of a safe driver that nothing short of a neurological and psychiatric examination would eliminate the majority of the reckless drivers. When we consider that the average mental age of adults is about twelve years, too much should not be anticipated in any kind of re-examination. Often persons with demonstrable physical handicaps are much safer than many who present no demonstrable physical defect. The good driver is one who starts early and takes his time, not he who tries to make up for a late start by speeding. Many drivers have psychopathic personalities or suffer from psychoneurosis and are not aware of it. Others may have neurosyphilis or epilepsy in a small degree, which fact makes for careless driving.

A more effective examination would be to look into a person's habits for the purpose of eliminating the impulsive devil-may-care driver who goes along at full speed on slippery streets, whether icy or wet. It is important to investigate one's habits also so far as the customary observance of traffic regulations is concerned. In other words the good driver is always a cautious driver. He is the one who is not only careful of himself but protects others by seeing that his machine is fully insured so as to take care of any accident that might inadvertently happen even though not due to carelessness on his part.

THE X-RAYS IN GYNECOLOGY AND OBSTETRICS

In this number of the Journal will be found a paper by a gynecologist, Dr. Irving Stein, advocating the use of the X-rays as an aid in the diagnosis of gynecological conditions as well as in obstetrics. He deplores the neglect on the part of obstetricians and gynecologists of the use of this, which to him is a most important diagnostic aid. Many obstetricians have feared injuring the fetus in utero in the process of an X-ray examination. The employment of double screen technic and the use of duplitized films which reduce the exposure sometimes to not more than a second, the danger from radiation is practically eliminated. This technic combined with the use of the Bucky diaphragm, which is a device for the elimination of a large amount of scattered rays which tend to fog the X-ray plate, produces a most satisfactory result as a diagnostic factor.

Dr. Stein deplores the lack of precision in gynecological diagnosis which is often manifest by the listing of operations in hospitals as "exploratory laparotomy," "abdominal section," "pelvic inflammatory" or "pelvic tumor." Such preoperative diagnoses, he says, are not acceptable in a class A hospital. An abdominal section is not justifiable without a fairly accurate preoperative diagnosis. The same writer goes on to say that, "in the present high state of development of roentgenography a physician holds himself open to charges of malpractice for serious errors in diagnosis if he fails to avail himself of this source of information and thereby subjects his patient to unnecessary operative interference."

Among the roentgenological methods which may be used to advantage in gynecology and obstetrics may be mentioned the Rubin patency test in cases of sterility which consists of injection into the fallopian tubes of iodized oil as an opaque medium. The writer also gives his experiences with diagnostic pneumoperitoneum, a method of injecting air into the peritoneum cavity so as to bring the contents of the pelvic or peritoneal cavity into relief. With pneumoperitoneum he has been able to diagnose pregnancy as early as five or six weeks and to differentiate the condition from fibroids, ovarian cysts and tubal pregnancy. In many cases pregnancy may be ascertained by a straight X-ray exposure during the fourth month.

Then again stereoscopic roentgenograms are valuable in studying the bony pelvis. The obstetrician is able to estimate the relative contraction or deformity of the pelvis.

No roentgenologist would claim infallibility or one hundred per cent efficiency for the X-ray method of diagnosis. Where, however, the pathology manifests itself in a variation in density of the tissues or organs, this method should be by all means included

along with others in our attempts to ascertain the nature of the pathology present.

According to the report of the children's bureau of the Department of Labor, forty million dollars were expended for relief of needy families in one hundred American cities during 1930. Approximately half of this huge sum was spent in Detroit alone.

FAUGHT TAE A FINISH

Man! bit we're haein' an awfu' time settlin' oop th' auld warld war.

Thae folk over there are no learnin' ony lessons frae th' experience o' th' auld Scottish clans. In thae days if a fecht started they faught tae a finish. There wis nae foolin' roon aboot it. There wis nae armistice. When th' last man wint doon th' war wis o'er an' th' spoils settled a' th' bills. When it wis a' finished th' sodgers sat doon tae their porridge then ga'ed awa back tae their ain hames.

A'm thinkin' th' noo, if they dinna settle this war soon ah'll hae tae gang o'er tae th' auld countrae an' pit them a' back intil th' trenches where they were in 1918 an' tell them tae finish their fecht. Aye, an' if ah hae tae dae that thing, ye can depend on ma word that ah'll mak them pay cash for their pooder.

We ken noo, that there is only twa or three or perhaps fower wy's o' rinnin' a' war. Th' best wy is tae hae inither countrae dae th' fechtin' an' pay th' bills. Ye see, ye dinna hae tae pay ony pensions if ye rin yer war by proxy an' that saves a lot o' monie.

Inither wy, an' this is ma ain original wy, is tae pit a' th' kings an' queens an' pawns an' politicians in th' front line trenches tae gi' them honor, then pit a' oor sodgers an' marines intil th' second line trenches tae support them. Ye see, we hae tae support them ony wy, an' this is as guid a wy tae support them as ony ah can think o' th' noo. We wid then hae a' oor fairmers an' factory warkers at hame tae stop ony body frae signin' an armistice, or playin' A.W.O.L. frae th' front line trenches. We wid hae oor banks an' bankers, clarks tae collect cash for a' th' pooder an' bullets oor front line wid be coostin' awa o'er tae th' enemy. Aye, an' inither suggestion: ah wid hae a' oor printers divils an' cooboys, occasionally fly o'er oor front line trench an' whiles drap a few itch mites tae th' folk there tae gi' them a little encouragement tae gang o'er th' top.

Noo, ah mist tell ye o' inither wy tae rin a war, a better wy than ony ither. It is tae no hae ony war at a', at least no till aifter th' armistice is signed. Ye ken ye hae tae sign an armistice ony wy, sae ye micht as weel sign it first an' save monie. Aye, an' ye'll nae be needin' ony sodgers or ta'en awa frae their wark thae young chaps wha th' lassies o' th' countrae are in luve wi'.

Of course ah dinna care personally, hoo ye rin yer ain war, bit a'm tellin' ye that ye'll be better aff tae rin it on a cash an' carry basis.

Ah weel, its a bonnie nicht th' nicht,
Guid nicht.

Weelum

THOU SLUGGARD, KEEP AWAY FROM THE ANT

(Manchester Guardian)

The Royal Society of Sluggards ought to make Sir J. Arthur Thomson an honorary member and present him with a richly inlaid bedroom suite in return for his valuable remarks about the ant at the annual dinner of the Eugenics Society. Anyone with half an eye can see that the ant is a nasty little acquisitive insect whose example is wholly unsuitable for representatives of an enlightened civilization, and Solomon's advice on this subject has made all the moral running for far too long. Now Professor Thomson has exposed the creature; it makes war, it acquires slaves, its family life is simply dreadful, and obviously its habit of food-hoarding would be condemned by any responsible economist of today. Sluggards are quiet and altruistic gentlemen in comparison with this energetic little brute, which would be up before the insect League of Nations for oppressing subject nationalities if there were any such body known to entomology.

To tell inoffensive idlers to "go to the ant" is like advising them to model their behaviour on slave-traders and war-mongers, whereas by quietly consuming without producing they must be striving most usefully to adjust the world's balance of trade. It was high time that the ant was presented as an awful warning instead of a pious example—a thoroughly ugly customer both in appearance and behaviour.

THE OATH REQUIRED OF CANDIDATES FOR MEMBERSHIP IN THE AMERICAN COLLEGE OF PHYSICIANS

". . . I PLEDGE *myself . . . to consider ever primary to my own, the welfare of patients dependent upon my professional knowledge and skill; ever to respect the interests and reputations of my colleagues; as occasion requires, to supplement my own judgment with the wisdom and counsel of competent medical specialists; to render my assistance willingly to my colleagues; to extend freely my professional aid to the unfortunate, the poor and the needy; to advance steadily in knowledge by the reading of authoritative medical literature, by attendance at important gatherings of medical men, by postgraduate instruction from men of eminence and position, and by the free interchange of experience and opinion with my associates.*

"Further, I promise, in so far as in me lies, to shun the public press or public gatherings of laymen where my attitude might be regarded as seeking self-advancement; to avoid selfishness and commercialism in my professional practice; to influence patients to appreciate their financial responsibilities to their medical advisers; to adjust my compensation to the circumstances of my patients and to make such charges commensurate with the services rendered and to avoid discrediting my profession by seeking unwarranted compensation. . . ."

A SONG OF THE POWER OF MAN

"Of all strong things none is more wonderfully strong than man. He can cross the wintry sea, and year by year compels with his plough the unwearied strength of Earth, the oldest of the immortal gods. He seizes for his prey the aery birds and teeming fishes, and with his wit has tamed the mountain ranging beasts, the long maned horses and the tireless bull. Language is his, and wind-swept thought and city-founding mind; and he has learned to shelter himself from cold and piercing rain; and has devices to meet every ill but Death alone. Even for desperate sickness he has a cure, and with his boundless skill he moves on, sometimes to evil, but then again to good."

—From the *Antigone of Sophocles.*

GENERAL NEWS AND ANNOUNCEMENTS

Dr. Wynand D. Pyle, formerly of Detroit, is ship physician on the Vollendam of the Holland-American steamship lines, plying between New York and Rotterdam.

The Detroit Welfare Commission have proposed a fee of $10.00 to defray the expense of confinement in the homes of the indigent poor. This fee is presumed to reimburse the doctor and to eliminate the necessity of hospitalization for confinements conducted in the homes. It represents an effort towards further civic economy.

The joint yearly meeting of the Mississippi Valley Conference on Tuberculosis and the Mississippi Valley Sanatorium Association will be held at the Lowry Hotel in St. Paul, September 21, 22, and 23. Michigan is one of the participating states. This double conference gathers together medical experts in tuberculosis, public health and social workers interested in the anti-tuberculosis movement from twelve Mississippi Valley States. Three days of intensive study on medical and medico-sociological subjects characterize the program.

POST GRADUATE STUDY OF HEART DISEASES

A rare opportunity in post graduate study of heart diseases is furnished by The Fourth Annual Graduate Fortnight of the New York Academy of Medicine, the dates being October 19 to 30, 1931.

The leading cardiologists of the East, with Sir Thomas Lewis of London, will have afternoon clinical demonstrations and evening papers.

The profession generally is invited to attend; no fees fill be charged for attendance at clinics or meetings of the Fortnight. Programs and registration blanks are now available and may be secured by sending to the headquarters of the New York Academy of Medicine, 2 East 103rd Street, New York City.

The United States Civil Service Commission announces an open competitive examination for Physician (Cancer). Applications for the position of physician (cancer) must be on file with the U. S. Civil Service Commission at Washington, D. C., not later than September 4, 1931. The examination is to fill a vacancy in the Veterans' Administration, for duty at Hines, Illinois. The entrance salary is $3,800 a year. Competitors will be rated on their education, training, and experience. Applicants must have been graduated from a Grade-A medical school within twenty years of the date of the close of receipt of applications, and must have had at least three years of postgraduate experience in the practice of medicine, including at least one year in the diagnosis and treatment of malignant diseases, involving the use of radium and radium emanation, the histopathology of tumors, and clinical or laboratory research. Full information may be obtained from the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city or from the United States Civil Service Commission, Washington, D. C.

DEATHS

DR. GEORGE S. TWEEDIE

Dr. George S. Tweedie, the oldest practicing physician in Sanilac County and one of the early settlers of Sandusky, died at his home July 23, at the age of 70 years, after an illness of four weeks. Dr. Tweedie was serving his sixth term as mayor of Sandusky. During his 45 years of service to the public he had been president, secretary and treasurer of the Sanilac County Medical Society, member of the American Medical Association, member of the State Medical Society, and had just retired from the United States Pension Board, of which all members retire at the age of seventy. Dr. Tweedie was born May 17, 1861, at Tilsonburg, Ontario. At the age of eighteen he entered college at Chatham, Ontario, and later entered the Detroit College of Medicine, graduating from that college in 1886. In March of the same year he went to Sandusky to practice medicine and resided there continuously until his death. In 1887 he was united in marriage to Serena Allen, who died a few years later. On June 8, 1898, he married Winnifred Evans of Sandusky, who with one daughter, Mrs. James Graham, of Detroit, and two sons, Dr. G. Evans and Dr. S. Martin Tweedie, of Sandusky, survive. He is also survived by four sisters, Mrs. Charles Livingston, of Potlach, Washington, Mrs. Margaret Tassie and Miss Minerva Tweedie, of Toronto, Ontario, and Mrs. Roger Haward, of Montreal, Ontario; also two brothers, Gilbert Tweedie of Snohomisk, Washington, and Charles Tweedie of Toronto, Ontario.

CORRESPONDENCE

Dr. George E. McKean,
1551 Woodward Ave.,
Detroit, Michigan.
Dear Dr. McKean:

I want to thank you for your very graceful tribute to Dr. Warthin in the Journal of the Michigan State Medical Society for July. Especially to thank you for introducing my name.

I have not yet recovered from the shock of Dr. Warthin's death. I had no idea he was having symptoms until the news of his first severe attack reached me. Then I received a letter from him written the day before he died, and also got the autographed copy of his last book, I think the only one he had time to autograph.

I am glad to hear from time to time about your continued activity, and if you ever take a vacation, hope you will visit California and give me the pleasure of seeing you. With kindest regards,

Yours sincerely,
George Dock.

Dr. McKean was the writer of the editorial on Dr. Warthin which appeared in the July number of the Journal of the Michigan State Medical Society.—Editor.

Official Program

111th Annual Meeting--Michigan State Medical Society, Pontiac, Mich., September 22, 23 and 24, 1931

Celebrating the 100th Anniversary of the Oakland County Medical Society

OFFICIAL CALL

The Michigan State Medical Society will convene in annual session in Pontiac on Sept. 22, 23, 24, 1931. The provisions of the Constitution and By-Laws and the official program will govern the deliberations and business of this annual session.

R. C. Stone, *President*
B. R. Corbus, *Chairman Council*
H. J. Pyle, *Speaker*

Attest:
F. C. Warnshus, *Secretary*

DAILY SCHEDULE

Sept. 21—Council Session
4:00 P. M.—Hotel Waldron.
Sept. 22—Masonic Temple
10:00 A. M.—House of Delegates.
2:15 P. M.—House of Delegates.
7:30 P. M.—House of Delegates.
9:30 P. M.—Entertainment.
Sept. 23—
9:15 A. M.—Scientific Sections.
1:30 P. M.—Scientific Sections.
7:30 P. M.—General Session.
Sept. 24—
9:15 A. M.—Scientific Sections.
1:30 P. M.—Combined Section Meeting.
7:30 P. M.—General Session.

MEETING PLACES

Masonic Temple:
Registration and Information.
Commercial Exhibits.
Scientific Exhibits.
Dermatology and Syphilology.
Gynecology and Obstetrics.
Ophthalmology and Otology.
Pediatrics.
1st Baptist Church
Surgery.
1st Presbyterian Church
Medicine.
Combined Section Meeting.
Health Exhibits.
Tabernacle:
General Session—Wednesday.
General Session—Thursday.

HOTELS

Waldron—$3.00 to $8.00.
Officers and Delegates.
Heldenbrand—$2.00 to $9.00.
Roosevelt—$1.50 to $5.00.
Lochaven Country Club—$2.50 to $3.50.

Dr. Clifford T. Ekelund
906 Riker Bldg., Pontiac
Chairman of Committee on Hotels

HOUSE OF DELEGATES

Place: Masonic Temple.
Time: 10:00 A. M., September 22.
Speaker: H. J. Pyle, Grand Rapids.
Secretary: F. C. Warnshuis, Grand Rapids.

ORDER OF BUSINESS

1. Call to Order.
2. Report of Committee on Credentials.
3. Roll Call.
4. Minutes.
5. Speaker's Address—H. J. Pyle.
6. President's Address—R. C. Stone.
7. President-elect's address—C. F. Moll.
8. Annual Report of Council.
9. Appointment of Reference Committees.
   Business.
   Officers' Reports.
   Council Reports.
10. Election of Nominating Committee.
    Note: No two members from one Councilor District shall be elected to the Nominating Committee.
    Duties of Nominating Committee:
    (*a*) Act as Tellers.
    (*b*) Nominate A. M. A. Delegates to succeed: Carl F. Moll (term expired); alternate, W. J. Cassidy (term expired).
    (*c*) Place of next annual session.
11. Reports of Committees:
    (*a*) Civic and Industrial Relations.
    (*b*) Cancer Committee.
    (*c*) Delegates to A. M. A.
    (*d*) Legislative Committee.
12. Resolutions and New Business.
13. Recess.

SECOND SESSION
2:30 P. M.

14. Roll Call.
15. Report of Reference Committees
16. Unfinished Business.
17. New Business.

THIRD SESSION
7:30 P. M.

18. Roll Call.
19. Report of Reference Committees.
20. Elections:
    (*a*) President-elect
    (*b*) Report of Nominating Committee.
    (*c*) Place of Meeting.
    (*d*) A. M. A. Delegate and Alternate.
    (*e*) Councilors.
        NOTE: Nominations are made by delegates of each District:
        1. Fourth Dist., C. E. Boys (term expires).
        2. Fifth Dist., B. R. Corbus (term expires).
        3. Sixth Dist., Henry Cook (term expires).
    (*f*) Speaker.
    (*g*) Vice-Speaker.
21. Unfinished Business.
22. Adjournment.

FIRST GENERAL SESSION

Time: Wednesday, September 23, 7:30 P. M.
Place: Tabernacle.

1. Invocation: Rev. Bates G. Burt.
2. Welcome Address: L. A. Farnham, M.D., President, Oakland County Medical Society.
3. Announcements.
4. In Memoriam:
   Memorial Record—The Secretary.
5. President's Annual Address—R. C. Stone, M.D., Battle Creek.
6. Address—Governor Wilber M. Bruchner.
7. Introduction of President-elect—Carl F. Moll, M.D., Flint.
8. Adjournment.

SECOND GENERAL SESSION

Time: Thursday, September 23, 7:30 P. M.
Place: Tabernacle.

1. Introduction—President Oakland County Medical Society—L. A. Farnham, M.D.
2. Announcement of prizes for Public Competition —F. A. Baker, M.D.
3. Address: "Border Frontiers of Medicine"—Morris F. Fishbein, M.D., Chicago, Editor Journal American Medical Association.
4. Adjournment.

DELEGATES TO ANNUAL MEETING*[1]

Alpena County—14
E. L. FOLEY
A. R. Miller

Antrim-Charlevoix-Emmet-Cheboygan—20
D. C. BURNS
F. F. Grillet

Barry—12
C. P. LATHROP
H. A. Adrounie

Bay-Arenac-Iosco—60
CHARLES W. ASH
H. P. Lawrence

Berrien—30
W. C. ELLET
L. M. Rutz

Branch—12
SAMUEL SCHULTZ
R. L. Wade

Calhoun—99
C. S. GORSLINE
A. T. HAFFORD
W. L. Godfrey
A. D. Sharp

Cass—11
W. C. McCUTCHEON
S. L. Loupee

Chippewa-Mackinac—13

Clinton—13
F. E. LUTON
W. A. Scott

Delta—21
J. K. PARISH
John Towey

Dickinson-Iron—18

Eaton—15
PHIL QUICK
K. A. Anderson

Genesee—125
J. T. CONNELL
G. J. CURRY
F. E. REEDER
H. E. Randall
J. W. Orr
B. E. Burnell

Gogebic—17
ELWOOD TEW
S. R. Rees

Grand Traverse-Leelanau—25
E. F. SLADEK
S. P. Smiseth

Gratiot-Isabella-Clare—26
T. J. CARNEY
W. G. Young

Hillsdale—20
D. W. FENTON
G. R. Hanke

Houghton-Baraga-Keweenaw—41
ALFRED LA BINE
K. C. Becker

Huron—8
W. B. HOLDSHIP
A. J. Howell

Ingham County—83

Ionia-Montcalm—34
P. C. ROBERTSON
L. E. Bracey

Jackson—68
PHILIP RILEY
J. J. O'MEARA
C. S. Clarke
H. A. Brown

Kalamazoo-Allegan-Van Buren—121
F. T. ANDREWS
A. A. McNABB
John Rickert
D. C. Rockwell

*Delegates names appear in capital letters; alternates in small letters.
[1]Numbers opposite County names indicate number of paid members.

Kent—167
A. V. WENGER
R. H. DENHAM
W. E. WILSON
J. D. BROOK
G. H. SOUTHWICK
A. M. Moll
E. N. Nesbitt
E. W. Schnoor
C. F. Snapp

Lapeer—24
C. M. BRAIDWOOD
H. B. Zemmer

Lenawee—32
C. H. WESTGATE
E. C. Raabe

Livingston—11

Luce—9
H. E. PERRY
E. H. Campbell

Macomb—32
J. N. SCHER
W. J. Kane

Manistee—14
A. A. McKAY
H. D. Robinson

Marquette-Alger—32
VIVIAN VANDEVENTER
Alfred W. Hornbogen

Mason—8
E. G. GREY
L. W. Switzer

Mecosta—20
L. K. PECK
B. L. Franklin

Menominee—12
EDWARD SAWBRIDGE
R. A. Walker

Midland—9
JOSEPH H. SHERK
W. D. Towsley

Monroe—30
S. J. RUBLEY
P. D. Amadon

Muskegon—67
F. W. GARBER, Sr.
C. J. Bloom

Newaygo—10
A. C. TOMPSETT
H. R. Moore

Oakland—85
C. T. EKELUND
F. A. MERCER
B. M. Mitchell
J. S. Lambee

Oceana County—7
J. H. NICHOLSON
A. R. Hayton

Otsego-Montmorency-Crawford-Oscoda-Roscommon-Ogemaw—11
CLAUD R. KEYPORT
L. A. Harris

Ontonagon—6
C. S. WHITESHIELD
E. J. Evans

Ottawa—27
A. E. STICKLEY
S. L. De Witt

Saginaw—68
O. W. LOHR
A. E. Leitch

Sanilac—6
S. M. TWEEDIE
C. G. Robertson

Schoolcraft—4
A. R. TUCKER
George A. Shaw

Shiawassee—28
I. W. GREENE
W. E. Ward

St. Clair—43
A. L. CALLERY
T. E. De Gurse

St. Joseph—12
C. G. MORRIS
J. V. Blood

Tuscola—24
JOHN G. MAURER
J. MacKenzie

Washtenaw—107
THERON S. LANGFORD
JOHN WESSINGER
George Muehlig

Wayne County—1086
J. M. ROBB
L. J. HIRSCHMANN
FRANK A. KELLY
H. W. PLAGGEMEYER
RICHARD M. McKEAN
JOHN L. CHESTER
JAMES E. DAVIS
GROVER C. PENBERTHY
ANDREW P. BIDDLE
E. D. SPALDING
C. E. DUTCHESS
CHARLES S. KENNEDY
JOSEPH H. ANDRIES
NORMAN M. ALLEN
WM. J. STAPLETON, Jr.
G. VAN AMBER BROWN
CLYDE K. HASLEY
BERT U. ESTABROOK
NORMAN E. CLARKE
BASIL L. CONNELLY
T. K. GRUBER
A. E. CATHERWOOD
WM. S. REVENO
HENRY A. LUCE
L. BYRON ASHLEY
W. L. HACKETT
C. F. McCLINTIC
CHARLES LAKOFF
J. D. CURTIS
L. J. GARIEPY

Wm. P. Woodworth
Leslie T. Henderson
A. H. Whittaker
Frank Kilroy
E. C. Baumgarten
L. O. Geib
C. J. Barone
A. J. Himmelhoch
Daniel P. Foster
D. J. Leithauser
Louis J. Morand
F. C. Witter
H. B. Garner
J. R. Rupp
A. E. Nayler
Wm. H. Honor
Wm. J. Cassidy
D. S. Brachman
Wm. N. Braley
Frank S. Perkin
Don A. Cohoe
Susanne Sanderson
F. B. Wight
V. L. Van Duzen
F. Janney Smith
Wm. E. Johnston
C. L. Candler
Ronald P. Reynolds
Louis Klein
Nelson McLaughlin

SCIENTIFIC SECTIONS

Section on General Medicine

Chairman: Milton R. Shaw, Lansing.
Secretary: I. W. Greene, Owosso.

MORNING SESSION

Wednesday, September 23—9:15 A. M.

1. Chairman's Address — "Agranulocytosis"—Case report—Dr. Milton R. Shaw, Lansing.

2. "The Treatment of Pernicious Anemia in the Light of Recent Discovery"—Dr. Cyrus Sturgis, Ann Arbor.

   Characteristics of pernicious anemia patients; achlorhydria and changes in the chemistry of gastric digestion; relation between the stomach defect and development of red blood cells; the nature of the action of liver therapy; the rationale of Ventriculin; its mechanism of action; effect on patients with pernicious anemia; change in red blood cell count; change in weight; subjective symptoms; dosage; practical points in the treatment of pernicious anemia.

3. "Neurological and Psychopathic Manifestations of Pernicious Anemia"—Dr. Charles Kiely, Cincinnati, Ohio.

   The almost unfailing regularity of the tracts involved when pernicious anemia is accompanied by cord lesions has been a source of interesting speculation. Lasting remissions in the anemia with heliotherapy have not been accompanied by arrest of these degenerations, proving that the nervous lesions are not the primary cause of anemia. That they are probably a result is attested by the occurrence of identical lesions in grave anemias not of the pernicious type. The recognition of pernicious anemia as a deficiency disease held in check by some unknown constituent of liver and the stomach mucosa seems to justify the conclusion that the cord lesions are secondary to the anemia, as the former are now seen to recede completely when the nature of the underlying blood disease is recognized early. The well established rule that tissue of the central nervous system cannot regenerate is borne out. The new forms of therapy give promise of prevention of the nervous lesions by arresting the primary disease before nerve damage has become irreparable.

Dr. Charles E. Kiely received the degree A.B. at St. Xavier College, Cincinnati, Ohio, 1906; A.B., Harvard University, 1909; M.D., University of Cincinnati, 1913. His interneships were served in the Cincinnati General Hospital, Neurological Institute of New York, and Manhattan State Hospital for the Insane. He was Fist Lieutenant Medical Corps in charge of the ward for the shell shocked, Allerey, France. He is Assistant Professor of Psychiatry, Medical Department, University of Cincinnati; Assistant Director Psychiatric Service, Cincinnati General Hospital; Neuropsychiatrist, Christ Hospital, Cincinnati, and St. Elizabeth Hospital, Covington, Ky.; Consultant Phychiatrist to the Branch Hospital for Tuberculosis, Cincinnati, Ohio; Attending Psychiatrist, Cincinnati Sanitarium, College Hill, Cincinnati, Ohio, and is a member of the Cincinnati Academy of Medicine, Ohio State Medical Association, American Medical Association, Central Neuropsychiatric Association, and American Psychiatric Association.

Dr. Kiely

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4. "Secondary Anemias"—Dr. Charles H. Watkins, Mayo Clinic.

   The diagnosis of various types of secondary anemia will be discussed with respect to clinical manifestations and morphological features of the blood. In the light of the diagnosis, an evaluation of the efficacy of different methods of treatment will be attempted.

Dr. Charles H. Watkins was born July 20, 1899, at Etna, Ohio. He attended the Ohio State University and the Medical School University of Minnesota, receiving the degrees of B. A., B. S., M. A., M. B., M. D., Ph.D. He interned at the University of Minnesota Hospital in Minneapolis. He entered The Mayo Clinic as first assistant in Medicine and is now an associate in the Division of Medicine and instructor in medicine, The Mayo Foundation. He is a fellow of the American Medical Association, and is a member of the Minnesota State Medical Association, Central Society for Clinical Research, Sigma Xi, Alpha Omega Alpha, Alpha Kappa Kappa, and Delta Tau Delta.

Dr. Watkins

5. "New Aspects of Symptoms, Diagnosis and Treatment of the Leukemias"—Dr. Raphael Isaacs, Ann Arbor.

The neoplastic nature of the disease; types of blood cells affected; leukemic and aleukemic states; aids in diagnosis; symptomatology, the cause of the symptoms and their relation to the peripheral blood picture; use of roengen rays, radium, arsenic, Lugol's solution, blood transfusion, iron, liver, liver extract, and Ventriculin; prognosis. (Lantern Slides.)

AFTERNOON SESSION

Wednesday, September 23—1:30 P. M.

1. "The Significance of Circulatory Disturbance in Certain Psychoses"—Drs. Theophil Klingman and H. S. Millett, Ann Arbor, Michigan.

A survey of 200 case records of psychotic patients at the age of 40 and up revealed to the authors the fact that it was possible to group them into four organic syndromes as follows: (1) Endocrine, (2) Cardiovascular renal, (3) Pulmonary, (4) Gastro-intestinal. Both subjective symptoms are taken into consideration. The secondary group is discussed in this essay.

2. "The Present Status of Epidemic Encephalitis"—Drs. Fred P. Currier and David B. Davis, Grand Rapids.

The paper presents a brief and concise review of the history and etiology of epidemic encephalitis. The authors will present a summary of one hundred and twenty-five cases of their own, including the results of, and experiences with, treatment. A moving picture demonstration of the unusual cases will occupy five minutes of the allotted time for this paper.

3. "Undulant Fever" (Brucelliasis)—Dr. Walter M. Simpson, Dayton, Ohio.

The recognition of undulant fever as a common and widely distributed disease of man is largely a development of the past three years. Over 2,000 cases of undulant fever, occurring in every state of the Union, have been recorded by state health departments during the past two years. This paper will be based upon clinicopathologic study of 128 cases of undulant fever which have been encountered in Dayton and the surrounding communities.

4. "Treatment of Diabetic Acidosis and Coma"—Drs. D. P. Foster, Wm. L. Lowrie, F. MacDonald.

The treatment of diabetic acidosis and coma demands emergency measures. The underlying principle is the reestablishment of normal body reactions by the use of liberal amounts of carbohydrates, insulin, and fluids. The detail and technic of applying this principle is outlined. A chart to facilitate the immediate recording of all laboratory and clinical data is shown. Charts illustrating the results of treatment are shown.

Election of Chairman.

MORNING SESSION

Thursday, September 24—9:15 A. M.

JOINT MEETING OF MEDICAL AND DERMATOLOGICAL SECTIONS

1. "Visceral Syphilis" — Dr. Paul A. O'Leary, Mayo Clinic.

2. "Tularemia"—Dr. Walter M. Simpson, Dayton, Ohio.

Tularemia probably occupies a unique position in medical history because of the rapidity with which it has evolved from the obscurity of a clinical curiosity to the prominence of an important public health problem. Six years ago tularemia was practically an unknown name in the medical literature; reports of about 15 cases had appeared up to that time. Tularemia has now been recognized in all but five of the states in the Union. The recognition of the widespread incidence of the disease in Soviet Russia, Japan, and Norway indicates that the disease is probably world-wide in its distribution. While wild rabbits constitute the most important reservoir of infection for other wild animals and man, new animal hosts and insect vectors have been discovered. This paper will be based upon a summary of recent investigations and a consideration of the Dayton experience with 88 cases.

Dr. Walter M. Simpson received the degree Bachelor of Science, University of Michigan, 1922; Master of Science (in Pathology) University of Michigan, 1923; Doctor of Medicine, University of Michigan, 1924. He was teaching assistant in Anatomy and Histology, University of Michigan, 1920 to 1922; teaching assistant in Pathology, University of Michigan, 1922 to 1923; instructor in Pathology, University of Michigan, 1923 to 1924; senior instructor in Pathology, University of Michigan, 1924 to 1926; instructor in Surgical Pathology, Johns Hopkins Hospital, 1926 to 1927, and has been director, Diagnostic Laboratories, Miami Valley Hospital, Dayton, Ohio, 1927 to date.

Dr. Simpson

Dr. Simpson was awarded a gold medal by the American Medical Association at Minneapolis, Minnesota, 1928, for research in tularemia.

He was the first recipient of the Ward Burdick Research Award (gold medal) given by the American Society of Clinical Pathologists, 1929, Portland, Oregon, for researches in tularemia and undulant fever.

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3. "A Few Skin and Mucous Membrane Lesions of Interest to General Medicine"—Dr. G. H. Belote, Ann Arbor.

Section on Surgery

Chairman: Grover C. Penberthy, Detroit.
Secretary: George J. Curry, Flint.

MORNING SESSION

Wednesday, September 23—9:15 A. M.

1. Chairman's Address—Dr. Grover C. Penberthy, Detroit.

2. "Surgical Lesions of the Large Bowel" —Dr. Fred W. Rankin, Rochester, Minnesota.

The past decade has seen enormous increase in diagnostic efficiency, some advantageous technical maneuvers developed and a better understanding of the

symptomatology of organic lesions of the gastro-intestinal tract. This paper deals mainly with the diagnosis and treatment of malignancy of the large bowel and of diverticulitis.

Discussion—Dr. L. H. Hirschman, Detroit; Dr. Herbert E. Randall, Flint.

3. "Primary Ileostomy in the Treatment of Generalized Peritonitis"—Dr. E. C. Baumgarten, Detroit.
Discussion—Dr. C. D. Brooks, Detroit; Dr. R. C. Stone, Battle Creek.

4. "Carcinoma of the Stomach with Special Reference to Early Diagnosis and Operability"—Dr. Henry K. Ransom, Ann Arbor.

Carcinoma of the Stomach: An analysis of a group of patients with carcinoma of the stomach with special reference to early diagnosis and operability. A discussion of results following different types of operation. Partial gastrectomy as a palliative operation gives results that are much better than any other type of operation with a lower postoperative mortality. A plea for earlier complete examination and radical operation.

Discussion—Dr. George A. Seybold, Jackson; Dr. Roy D. McClure, Detroit.

AFTERNOON SESSION

September 23—1:30 P. M.

5. "Infantile Paralysis"—Dr. F. C. Kidner, Detroit.

Resume of the latest method of diagnosis and treatment in the acute disease.
Some of the surgical aspects of the treatment in late cases as regards deformity and residual paralysis.

Discussion—Dr. John T. Hodgen, Grand Rapids; Dr. Carl E. Badgley, Detroit.

6. "The Conservative Operative Treatment of Hydronephrosis"—Dr. John K. Ormond, Detroit.

There are two criteria of success of treatment—first, relief of symptoms, and second, preservation or restoration of function. In the case of hydronephrosis, only the first requirement is met by nephrectomy; but in suitable cases, certain plastic operations on the ureter meet both.

Discussion — Dr. Alvin Thompson, Flint; Dr. Robert E. Cumming, Detroit.

7. Observations of Twenty Years in Brain and Spinal Cord Surgery"—Dr. Wm. J. Cassidy, Detroit.

1. The imperative necessity of the general surgeon to keep thoroughly abreast of the tried and true diagnostic and surgical technical features of nervous system. 2. The tremendous expansion of cerebro-spinal field demanding of the specialist the ever widening recognition of living pathology anatomica; especially the surgery of the sympathetic nervous system which is so markedly in the lime-light at the present time. He must be an able thoracic and abdominal surgeon of the Nth. degree to attain minimum morbidity and mortality rates.
Traumatic, cranio-cerebral surgery, evaluations of past surgical indications and technical features, the present-day changes for improvement in diagnosis and treatment of brain trauma with hemorrhage. Limitations of X-ray examinations. Increasing intra-cranial pressure. Essential differential considerations between brain, spinal cord and peripheral system surgery. Sympathetic nerve surgery.

Discussion—Dr. Max Peet, Ann Arbor; Dr. Albert S. Crawford, Detroit.

8. "Tumors and Their Behavior"—Dr. Henry J. Vanden Berg, Grand Rapids.

While the cause of tumor growths is unknown, much is known of their behavior. The origin of a tumor is an important factor in its behavior; also the type of cellular structure. Certain tumors have known tendencies as regards their routes of spread and also the location of their secondaries. To be familiar with these tendencies is helpful in "running them down."

Discussion—Dr. Joshua Manwaring, Flint; Dr. Earl I. Carr, Lansing.

MORNING SESSION

Thursday, September 24—9:15 A. M.

Election of Chairman.

9. "The Response of Different Types of Sarcomas to Treatment"—Dr. D. B. Phemister, Chicago.

The results of treatment in various ways are discussed in terms of classifications based on both cell type and degree of cell differentiation. It is very unsafe to interpret the degree of malignancy in terms of degree of differentiation of cells. Very favorable results have been obtained in some of the least differentiated sarcomas. Tumors of certain tissue types present a worse prognosis than those of other tissue types.

Discussion—Dr. J. Walter Vaughan, Detroit; Dr. Traian Leucutia, Detroit.

10. "Carcinoma of the Small Intestine"—Dr. Dean Lewis, Baltimore.

The paper will deal with carcinomas of the small bowel, discussing the relative frequency when compared with other tumors of the gastro-intestinal tract. In addition discussion of carcinoma of the small intestine, carcinoid tumors and also lymphoblastomas. The frequency of lymphoblastomas of the small intestine and their comparison with other types of tumors will be emphasized.

Discussion—Dr. Max Ballin, Detroit; Dr. Fred Coller, Ann Arbor.

11. "Diseases of the Spine Simulating Pott's Disease and Compression Fractures"—Dr. Lawrence Reynolds, Detroit.
Discussion—Dr. Alfred D. LaFerté, Detroit; Dr. Vernon L. Hart, Ann Arbor.

Section on Obstetrics and Gynecology

Chairman: Harry M. Nelson, Detroit.
Secretary: Harold A. Furlong, Pontiac.

MORNING SESSION

Wednesday, September 23—9:15 A. M.

1. "Management of Sterility Studies from the Standpoint of the General Practitioner"—Dr. Clarence Toshach, Saginaw.

2. "Rural Obstetrics—Analysis of 500 Cases"—Dr. Chas. F. Dubois, Alma.

3. "Accidents Sustained by the Genito-Urinary System During Operative Procedures"—Dr. H. L. Morris, Detroit; Dr. J. F. Brunton, Detroit.

The various types of accidental injury—vesical and ureteral—are classified. Six cases are used to illustrate certain lesions. Special attention is directed towards the accidental injuries in Gynecological procedures. Indications for cystoscopy and genito-urinary investigation are stressed. Symptomatology, prognosis, and treatment—both palliative and surgical—are discussed in detail.

4. "Milk Treatment in Pelvic Inflammatory Disease"—Dr. H. W. Yates, Detroit; David Davidoff, Detroit.

5. "Present Trends to Control Impregnation"—Dr. Harrison S. Collisi, Grand Rapids.

This discussion will include abortion and contraception and the tendency of womanhood to adopt means for the prevention of pregnancy, and the duty of the medical profession to point out its harmful, as well as beneficial, effects upon the health of the prospective mother, as well as to the cause of civilization.

6. "Some of the Newer Aspects of Gynecology"—Dr. Arthur H. Curtis, Chicago.

Dr. Arthur Hale Curtis was born in 1881. His early life was spent in Madison, Wisconsin, and he obtained his bachelor's degree from the University of Wisconsin. He graduated from Rush Medical College in 1905. He took postgraduate work at Berlin and Vienna, 1905, 1906 and 1908. Dr. Curtis is a Chief of Department of Gynecology and Obstetrics at the Northwestern University. He is a Fellow of the American College of Surgeons. He has published a great many articles and has written two text books.

Dr. Curtis

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7. "Report of a Series of Bougie Induction of Labor"—Dr. G. A. Carmichael, University Hospital, Ann Arbor.

AFTERNOON SESSION

Wednesday, September 23

1. "The So-called Functional Uterine Bleeding"—Dr. Kretchmar, University Hospital, Ann Arbor.

2. "Indications for Cesarean"—Dr. Roger Siddall, Detroit.

A consideration of the more common indications for Cesarean section based on the literature and personal experience. Cesarean section of any type is easy but dangerous, obstetrically speaking, and should be resorted to only after careful examination of the prospects for vaginal delivery. Indications for the operation in specific conditions are discussed.

3. "Treatment of Asphyxia Neonatorium"—Dr. Harold Henderson, Detroit.

4. "The Saving of the Perineum During Delivery"—Dr. J. E. Cooper, Battle Creek.

This will take up episiotomy and also low forceps delivery and the repair of the episiotomy and also the repairs following spontaneous deliveries with lacerations.

5. "Presentation of a Patient with Enormous Hypertrophy of the Breasts During Pregnancy"—Dr. Max Burnell, Flint.

This is a young primipara. Breasts were normal. Within two months after pregnancy the breasts increased to an enormous size. They hang almost to the knees and have increased in circumference in proportion.

6. "Cancer of the Cervix Attached by Vaginal Route—Review of 1000 Operative Cases"—Prof. Ludwig Adler, Vienna.

Professor Adler has been one of the leading exponents of vaginal hysterectomy. He has probably performed this operation oftener than any other man.

MORNING SESSION

Thursday, September 24—9:15 A. M.

1. "Acute Pelvic Inflammatory Disease"—Dr. I. S. Gellert, Detroit.

2. "Conservative Treatment in Toxemias of Pregnancy"—Dr. Robt. B. Kennedy, Detroit.

3. "Postmortem Cesarean Section with Survey of Literature"—Dr. Alexander Campbell, and Dr. J. Duane Miller, Grand Rapids.

4. "Treatment of Trichomonas Vaginalis Vaginitis"—Dr. Howard Cummings, Ann Arbor.

5. "Actinomycosis of Fallopian Tubes—Report of a Case"—Dr. Charles E. Boys, Kalamazoo.

6. "Intracranial Injuries of the Newborn"—Dr. Fred L. Adair, Chicago.

The discussion will include:
The mechanism of the production of intracranial injuries.
The frequency of their occurrence as a cause of death.
The confusion of the symptoms of these injuries with those of the so-called asphyxia neonatorium.
The occurrence of these injuries as a result of violent labors, of long hard labors, and of artificial deliveries.
Some points in technic which will tend to minimize these injuries.

Dr. Fred Adair was born July 28, 1877, at Ana Mosa, Iowa. He received his medical education at Rush Medical College from which he graduated in 1901. Postgraduate work was taken in Berlin in 1908. He is Professor of Gynecology and Obstetrics, University of Chicago. He is a member of the American Gynecological Society, American Association of Obstetricians, Gynecologists and Abdominal Surgeons and Fellow of the American College of Surgeons. Dr. Adair has written numerous articles in periodicals and medical publications.

Dr. Adair

MORNING SESSION

Wednesday, September 23—9:15 A. M.

1. "A Case of Congenital Ectodermal Dysplasia"—Dr. A. M. Hill, Grand Rapids.

   A case demonstrating unusual defects which are probably of a hereditary nature will be reported. These defects include, hair, teeth, and skin, all of which are derived from the ectoderm of embryonic life.
   The paper will include a short review of the literature and a discussion of the etiology, symptoms and diagnosis of the "Anhidrotic" type of ectodermal dysplasia.

2. "Correlation of Clinical, Roentgenological, and Autopsy Findings in Childhood Tuberculosis"—Dr. John A. Bigler, Clinical Assistant in Pediatrics, Northwestern University, Chicago, Ill.

   Roentgenograms of the chest are practically essential in the diagnosis of tuberculosis in children. This is true because clinical and physical manifestations are often absent or very questionable. As tuberculosis in childhood differs from that found in the adult, the same criterion in X-ray interpretation cannot be used. This report deals with the interpretation of chest roentgenograms in childhood tuberculosis based and checked upon observations at necropsy.

   Discussion—Dr. Fred Hodges, Professor of Roentgenology, University of Michigan, Ann Arbor.

Dr. John A. Bigler is Assistant Attending Physician, Children's Memorial Hospital, Chicago; Clinical Assistant in Pediatrics, Northwestern University Medical School.

3. "Artificial Immunity to Tuberculosis, with Special Reference to the Bacillus of Calmette and Guerin (B.C.G.)"—Dr. Malcolm H. Soule, Associate Professor of Bacteriology, University of Michigan, Ann Arbor.

   The data of many investigators in several countries indicate confirmation of the work and contentions of Calmette that the feeding of the living bacillus of Calmette and Guerin to the newborn produces an active immunity to tuberculosis and the bacillus when properly cultured is avirulent.

   Discussion—Dr. Daniel Budson, Department of Pediatrics, University of Michigan, Ann Arbor.

4. "Skin Temperature"—Dr. Walter G. Maddock, Instructor, Department of Surgery, University of Michigan, Ann Arbor.

   A brief résumé of skin temperature findings with variations under normal and abnormal conditions will be presented.

AFTERNOON SESSION

Wednesday, September 23—1:30 P. M.

1. "Acute Appendicitis in Infancy"—Dr. Rockwell Kempton, Saginaw.

   The unexpected finding at autopsy of a gangrenous appendix in an infant aged eighteen months who had for a period of nine days been suffering from nausea, vomiting and diarrhea emphasizes the difficulty of diagnosis of acute appendicitis during the first two years of life. While statistics would seem to prove the rarity of the condition during this period, it is well to consider that the diagnosis is probably seldom made, and then only in the more typical cases.

2. "Birth Injuries"—Dr. Bronson Crothers, Assistant Professor of Pediatrics, Harvard University, Boston, Mass.

   From the neurologist's point of view, the process of delivery of babies is of greatest interest. As far as he is concerned, he thinks of the foetus as an envelope of pliant bone and weak muscle surrounding a nervous system, and he is particularly interested in the stresses which are imposed upon this delicate organism. He sees breakdowns as the result of labor, and he always realizes that many of them are inevitable. The chief plea that is made is that the consideration of the mechanism of labor should include intracranial stress.

Dr. Bronson Crothers is Neurologist, Children's and Infants' Hospitals, Boston; Assistant Professor of Pediatrics, Harvard Medical School; Chairman of Sub-committee on Psychology and Psychiatry of the White House Conference on Child Health and Protection.

3. "The Intracranial Tumors of Childhood"—Dr. Loyal Davis, Associate Professor of Surgery, Northwestern University, Chicago, Ill.

   The various intracranial tumors which are most common in childhood include the medulloblastomas of the fourth ventricle, cerebellar astrocytomas and suprasellar cysts. These tumors are discussed from the standpoint of their early symptomatology and the results of surgical treatment.

Dr. Loyal Davis is Associate Professor of Surgery, Northwestern University, Chicago, Ill.

Dr. Davis

4. "Pachymeningitis Hemorrhagica Interna in Infants"—Dr. Edgar A. Kahn, Assistant Professor of Surgery, University of Michigan, Ann Arbor.

This condition is more common than is generally supposed. During the past four years ten cases have been discovered which were sent in as hopeless hydrocephalics. The differential diagnosis, prognosis and therapy will be discussed.

5. "A New Method for the Study of Edema"—Dr. F. H. Lashmet, Instructor, Department of Internal Medicine, University of Michigan, Ann Arbor.

Heretofore most studies of edema have been based upon changes in body weight correlated with free fluid intake and urine output. The fallacy of this method is pointed out and a more accurate method based on complete water exchange described.

MORNING SESSION

Thursday, September 24—9:15 A. M.

Election of Section Officers.

1. "Report of a Case of Acrodynia"—Dr. F. B. Miner, Flint, Michigan.

2. "A Review of the Literature on Epidemic Poliomyelitis"—Dr. Dorman E. Lichty, Instructor, Department of Pediatrics, University of Michigan, Ann Arbor.

3. "Practical Problems in Poliomyelitis"—Dr. J. P. Leake, Senior Surgeon, U. S. Public Health Service, Washington, D. C.

Historical and epidemiological considerations, diagnostic criteria, practical handling of cases with special reference to the intermediate period between the preparalytic symptoms and the time for surgical intervention.

Dr. J. P. Leake is Senior Surgeon, Bureau of the Public Health Service, Washington, D. C.

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4. "Clinical Aspects of Poliomyelitis"—Dr. John Gordon, Medical Director Division of Communicable Diseases, Herman Kiefer Hospital, Detroit.

Clinical knowledge has progressed to such a state that physicians can no longer be content with a diagnosis of infantile paralysis. Well developed principles permit diagnosis of poliomyelitis before paralysis. The clinical forms of the fully developed infection depend upon focal localization in the central nervous system. Differentiation from other common infections is possible by clinical methods and readily confirmed by examination of the cerebrospinal fluid. Recent developments in the management of the disease contribute toward a lower fatality rate and lessened permanent disability.

Section on Dermatology and Syphilology

Chairman: Cyril K. Valade, Detroit
Secretary: G. H. Belote, Ann Arbor

MORNING SESSION

Wednesday, September 23—9:30 A. M.

1. Clinic of "Common Skin Diseases."—Demonstration of diagnostic points and discussion of common forms of therapy. In charge of Drs. Jamieson, Bartholomew, Van Rhee, Troxell, Hyde and Saunders.

AFTERNOON SESSION

Wednesday, September 23—1:00 P. M.

2. Chairman's Address, "Arsenic Paste in Cancer of the Skin"—Dr. Cyril K. Valade, Detroit.

A short history of the uses and abuses of this ancient remedy for ulcers of the skin.

3. Election of Officers.

4. "Epidermophytosis of Hands and Feet"—Dr. Arthur E. Schiller, Detroit.

A brief history of Epidermophytosis. The relation between eczema, industrial dermatitis and parasitic diseases. Types and diagnosis of epidermophytosis. Treatment—stressing the impracticability of the same type of treatment in every case and outlining a system for care of the various types of this condition. (Lantern slide discussion.)

Discussion—Dr. Loren W. Shaffer.

5. "Prevention of Prenatal, Congenital and Neuro-Syphilis"—Dr. W. G. Wander, Detroit.

Group studies of prenatal and congenital syphilis show that these forms of syphilis can be decreased or brought to treatment while still amendable, if serologic tests are made to replace all assumption that syphilis does not exist. Spinal fluid examination should routinely become a part of the therapeutic program in every case of syphilis.

Discussion—Dr. W. L. Brosius.

Dr. O'Leary

Dr. Paul A. O'Leary is Director of Section on Dermatology and Syphilology, Mayo Clinic, Rochester, Minnesota, and Professor of Dermatology and Syphilology, Graduate School, University of Minnesota.

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6. "Ten Years' Observation on Late Cutaneous Syphilis" — Dr. Paul A O'Leary, Mayo Clinic.

A morphological and clinical study of 100 cases with late cutaneous syphilis who were treated and observed for a period of over ten years. It is evident that visceral syphilis as well as neurosyphilis is not uncommon in association with cutaneous syphilis. The difficulties of differential diagnosis, including the misleading features of a therapeutic test are pointed out, and a resume is given of the results of treatment in a group of patients, stressing the characteristics of the patients as well.

Discussion—Dr. Claude W. Behn.

MORNING SESSION

Thursday, September 24—9:00 A. M.

Joint Session of Medical and Dermatological Sections

7. "Hepatic and Gastric Syphilis"—Dr. Paul A. O'Leary, Mayo Clinic.

A discussion of the diagnostic as well as the therapeutic problems offered by these two types of visceral syphilis. The laboratory aids to diagnosis in hepatic syphilis as well as treatment programs and life expectancy of the patient are discussed. Part of the paper dealing with gastric syphilis emphasizes the frequent difficulties in differentiating the lesion from gastric carcinoma, and a discussion of the question of therapeutic test versus surgery, and the results in the treatment of gastric syphilis is included.

Discussion—Dr. Loren W. Shaffer.

8. "Tularemia"—Dr. W. M. Simpson, Dayton, Ohio.

9. "A Few Skin and Mucous Membrane Lesions of Interest to General Medicine"—Dr. G. H. Belote, Ann Arbor.

A lantern slide demonstration of several groups of skin and mucous membrane lesions which are commonly met in general medicine and which have points of interest to all branches of medicine.

Discussion—Dr. Udo J. Wile.

Section on Ophthalmology and Otolaryngology

Chairman: Carl F. Snapp, Grand Rapids.
Secretary: H. O. Westervelt, Benton Harbor.

MORNING SESSION

Wednesday, September 23—9:15 A. M.

1. Chairman's Remarks.

2. "The Relation of the Sympathetic Nervous System to Opthalmology and Otolaryngology."—Dr. W. Edward McGarvey, Jackson.

The rôle of the autonomic nervous system with its antagonistic action of vagotonia and sympatheticotonia has to be considered even in the field of the opthalmologist and otolaryngologist to help interpret certain clinical findings especially relative to the endocrine system. It also suggests a relation to allergic and protein reactions.

Discussion—Dr. Charles W. Ellis, Lansing; Dr. Carl G. Wenke, Battle Creek.

3. "Seventh Nerve Paralysis in Acute Suppurations of the Temporal Bone."—Dr. A. C. Furstenberg, Ann Arbor.

Discussion—Dr. J. S. Wendel, Detroit; Dr. J. J. McDermott, St. Joseph.

4. "Tears at the Ora Serrata. Their Significance and Their Treatment"—Dr. Peter C. Kronfeld, Chicago.

Recent discussions of the subject retinal detachment and its treatment have revealed striking differences between the opinions and experiences of the various authors concerning the frequency, the location, the response to surgical procedures, and the general significance of retinal tears. From these discrepancies it seems probable that retinal detachment does not represent a definite clinical or pathological entity. The author suggests that the cases with tears at the ora serrata be placed in one group because they show striking similarities in their clinical pictures and in their postoperative behaviour. Seven of the author's cases are presented to confirm this viewpoint.

Discussion—Dr. Walter R. Parker, Ann Arbor; Dr. Robert G. Laird, Grand Rapids.

Peter Clemens Kronfeld was born in Vienna, Austria (Austrian-Hungarian Monarchy), September 12, 1899. His father is Adolphe Kronfeld, M.D., Editor of the "Wiener Medizinische Wochenschrift," the oldest German medical journal; mother, Adolphine Waltenberger, both born in Vienna.

Dr. Kronfeld

Dr. Kronfeld studied at the K. u. K. Maximiliangymnasium in Vienna, joined the Austrian Army in 1916 (Field Artillery 122), stayed at the Italian Front until two weeks before armistice was declared. He obtained the rank of lieutenant. He studied Medicine at the University of Vienna. The first three years he was mainly interested in Chemistry. He became instructor in Human Physiology, 1920 (Physiological Institute, University of Vienna). Interned at the first Medical Clinic (Prof. Wenckebach and Eppinger) and First Surgical Clinic (Prof. von Eiselberg). He obtained the degree of M.D. September, 1923. He became voluntary assistant at the First Eye Clinic in Vienna in 1923, where he studied until December, 1929. During this time he was promoted to the rank of an assistant. In 1924 he went to the Eye Clinic of the University of Berlin for one semester; in 1925 to the eye clinic of Prof. Terrien in Paris. He has never been in private practice except as an assistant to Professor Ernest Fuchs in 1924 and 1925.

In 1925 he obtained the prize of the Vienna Ophthalmological Society for his work on the "Carbon Dioxide Content of the Aqueous."

In December, 1927, the University of Chicago offered him an Assistant Professorship in Ophthalmology, which he accepted for two years. In August, 1929, he returned to the Meller Clinic in Vienna and served there until January, 1930. Then he was appointed Associate Professor in Ophthalmology at the University of Chicago and returned to Chicago, where he has been up to date.

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5. "Petrous Bone Involvement Complicating Mastoiditis"—Dr. James T. Mills, Grand Rapids.
Discussion—Dr. Robert H. Frazer, Battle Creek; Dr. H. Lee Simpson, Detroit.

6. "The Relationship of Recurrent Laryngeal Paralysis to Medicine and Surgery"—Dr. Edgar E. Poos, Detroit.

The recurrent laryngeal nerve being a branch of the Vagus, and due to its course and relationships to other cranial nerves is frequently affected by conditions about the head, neck and chest, causing a paralysis of laryngeal muscles and various syndromes involving other cranial nerves.
The Laryngologist can be of aid to the Internist and Surgeon in the Diagnosis and Treatment of these conditions.

Discussion—Dr. J. K. Heckert, Lansing; Dr. H. B. Weinburgh, Lansing.

LUNCHEON—12:00 O'CLOCK

Grill Room, Hotel Heldenbrand

Round Table Conference: Dr. Peter C. Kronfeld, Chicago. "Retrobulbar Lesions of the Optic Nerve."

QUESTIONS DESIRED DISCUSSED MUST BE WRITTEN AND HANDED IN EARLY FOR DR. KRONFELD'S CONSIDERATION.

Afternoon Reserved for Recreation

MORNING SESSION

Thursday, September 24—9:15 A. M.

1. "Bilateral Optic Neuritis and Electric Retinitis"—Report of two cases—Dr. Ray W. Hughes, Detroit.
2. "Serious complications of Mastoiditis" —Dr. A. P. Wilkinson, Detroit.
3. "Orbital Abscess Following Incision of an Acute Chalazion"—Dr. A. R. McKinney, Saginaw.
4. "Diseases of the Salivary Glands"—Dr. Wm. V. Mullin, Cleveland.
5. "Malignant Leukopenia"—Report of cases—Dr. R. N. Sherman, Bay City.
6. "Meeting the Mild Divergent Squint Factor as a Frequent Cause in Patients Who Return Stating that Their Glasses Are Not Comfortable"—Dr. Ralph H. Pino, Detroit.
7. "A Case of Retinitis Following Influenza"—Dr. John H. McRae, Grand Rapids.
8. "Hemolytic Streptococcus Pyemia Accompanying Mastoiditis"—Dr. Audrey O. Brown, Detroit.

Election of Chairman.

LUNCHEON—12:00 O'CLOCK

Grill Room, Hotel Heldenbrand

Round Table Conference: Dr. R. Bishop Canfield, Ann Arbor. General Discussion of Ear, Nose and Throat Problems of Everyday Practise.

QUESTIONS DESIRED DISCUSSED MUST BE WRITTEN AND HANDED IN EARLY FOR DR. CANFIELD'S CONSIDERATION.

Joint Section Meetings

THURSDAY AFTERNOON

September 24—1:30 P. M.

First Presbyterian Church

The six scientific sections will convene in joint session at which the following symposium will be given:

TUBERCULOSIS

1. **Medical.**
"Diagnosis of Early Tuberculosis—Dr. J. A. Meyers, Minneapolis, Minnesota. —For Medical Section.

The diagnosis of early tuberculosis does not necessarily consist in finding a demonstrable minimal lesion, as we have so often thought, but rather upon discovering evidence of the infection soon after it has occurred, and then watching for the first manifestations of the disease. This is best done by observing a group of children or adults who, on first examination, react negatively to the tuberculin test. By repeating the test at intervals of three to six months, one detects those who have been exposed and infected with tubercle bacilli very early in the course of the infection. By close observation of this recently infected group, one is very often able to detect very early tuberculosis lesions. These lesions frequently appear months and even years before the patient suffers from any symptoms of tuberculosis. In the past our education pertaining to early diagnosis has consisted largely of teaching the public the symptoms of tuberculosis. When symptoms appear, often we are not dealing with early tuberculosis. (Lantern slides and X-ray films will be used to demonstrate extremely early tuberculosis lesions as well as those observed over long periods of time, before symptoms appear.)

Dr. J. A. Meyers is Medical Director, Lymanhurst School for Tuberculous Children; Chief of Tuberculosis Service, Minneapolis General Hospital; Professor of Preventive Medicine and Public Health, University of Minnesota; Consultant in Childhood Tuberculosis to Director of Hygiene, Minneapolis Board of Education, and Chief of Chest Clinic, University of Minnesota. He is a member of the National Tuberculosis Association; International Artificial Pneumothoral Association; American Medical Association; American Sanatorium Association; American Public Health Association; Minnesota

Dr. Meyers

Public Health Association (President); and the American Medical Authors Association. He is on the Editorial Board of the *American Review of Tuberculosis,* New York; is associate editor of the *Journal of the Outdoor Life,* New York, and chairman of the Editorial Board, of the *Journal Lancet,* Minneapolis. He is the author of the following books: The Care of Tuberculosis (1924); Vital Capacity of the Lungs (1925); Fighters of Fate—A Story of Men and Women Who Have Achieved Greatly Despite the Handicaps of the Great White Plague (1927); The Normal Chest of the Adult and Child, Including Applied Anatomy, Applied Physiology, X-ray and Physical Findings. In Collaboration with Doctors White, Fahr, Scammon, Rasmussen and Stewart (1927); The Diagnosis, Classification and Treatment of Tuberculosis (1927); Tuberculosis Among Children (1930); The Child and the Tuberculosis Problem (in press), and has to his credit approximately 175 articles published in medical journals.

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2. **Pediatrics.**

"Tuberculosis in Children and Adolescents"—Dr. Henry D. Chadwick, Tuberculosis Controller, Department of Health, City of Detroit.

Tuberculosis should be considered one of the serious diseases of childhood. It causes more deaths in persons under twenty than any other communicable disease. There are three distinct periods in the life of a child when there is a marked difference in their resistance to tuberculosis as shown by the death rate. These periods are under five, five to ten, and ten to twenty. Early diagnosis is dependent upon the use of the tuberculin test and roentgenogram of the chest. An analysis of 110 cases of the adult type of tuberculosis found in school children will be given.

3. **Ophthalmology and Oto-Laryngology.**

"Tuberculosis of the Nose, Throat and Larynx"—Dr. William V. Mullin, Cleveland, Ohio.

A more detailed anatomy than that usually given in the ordinary text book is necessary to understand the physiology and diseases of the salivary glands. (Slides will be shown demonstrating this point.)
Theories as to inflammation of the various glands. Formation of calculi: diagnosis and treatment. Tumors of the salivary glands.

4. **Dermatology and Syphilology.**

"Tuberculosis of the Skin"—Dr. H. L. Keim, Detroit.

General considerations. Types of involvement. (a) True cutaneous infiltrates. (b) Tuberculides. (c) Sarcoids. The role of tuberculosis in lupus erythematosus and its relation to tuberculous manifestations in other parts of the body. Therapeutic attack. Prognosis.

5. **Surgery.**

"Intrapleural Penumolysis for Pulmonary Tuberculosis"—Dr. John Alexander, Ann Arbor.

Division of pleural adhesions that are interfering with satisfactory collapse of a lung by artificial pneumothorax. Two methods of intrapleural pneumolysis: 1. Closed, by the use of a thoracoscope and cautery; 2. Open, through an incision in thoracic wall after resection of part of a rib. Description of operative techniques and relative advantages and dangers of each method. Indications and contraindications, complications and results.

6. **Gynecology and Obstetrics.**

Dr. Fred Adair, Chicago.

SCIENTIFIC EXHIBITS

Members are urged to visit the Scientific Exhibits. Dr. W. K. German, Director, has secured a splendid showing of many interesting pathological, X-ray, Surgical and Medical Exhibits that are most instructive.

COMMERCIAL EXHIBITS

A feature of the meeting is the Commercial Exhibit. Here you will find represented reliable business firms ready to meet your needs in supplies, equipment and drugs. Your time is well spent in visiting these booths.

GENERAL INFORMATION

1. *Hotels:* Write to hotel managers or to Dr. Eklund for your hotel reservations. Delegates are urged to write to Hotel Waldron.
   Detroit hotels will not be available. The American Legion has every available Detroit reservation.
2. *Golf:* Guest cards will be available for local country clubs.
3. *Entertainment:* Oakland County Medical Society will entertain officers and delegates at the Bloomfield Country Club at 9:30 P. M., Tuesday, Sept. 22. Ladies' entertainment will be provided for by the Woman's Auxiliary.
4. *Health Exhibits:* The local society is sponsoring public health exhibits and talks in the First Presbyterian Church.
5. *Commercial Exhibits:* These will be placed in Masonic Temple.
   Scientific Exhibits: Be sure and see these in the Masonic Temple.
   Registration: Registration Bureau will be located in the Masonic Temple. It will be open from 8:30 A. M. to 6:00 P. M. daily.
   Combined Section Meetings: All the Scientific Sections will combine in a general meeting at 1:30 P. M. on Thursday, Sept. 24. See general program for list of speakers who will discuss tuberculosis.
   Centennial Meeting: The Oakland

County Medical Society will celebrate its organizational centennial in the Tabernacle on Thursday evening, Sept. 24, at 7:30 P. M. It will be a public meeting. The main address will be by Dr. Morris Fishbein, Editor of the Journal of the American Medical Association. The local society will award three hundred dollars in prizes. Plan to stay for this celebration.

WOMEN'S AUXILIARY PROGRAM

Mrs. Frank A. Mercer, President and General Chairman

Reception Committee,
Mrs. Raymond Tuck, Chairman
Mrs. D. G. Castell
Mrs. A. L. Brannock
Mrs. George A. Sherman
Mrs. A. V. Murtha
Mrs. Harry A. Sibley

Sightseeing Tour Committee,
Mrs. Robert H. Baker, Chairman
Mrs. J. E. Church
Mrs. Frederick A. Baker

Bridge Party Committee,
Mrs. B. M. Mitchell, Chairman
Mrs. Bertil T. Larson
Mrs. Hubert Heitch

Style Show Committee,
Mrs. Leon F. Cobb, Chairman
Mrs. Frank B. Gerls
Mrs. Ethan B. Cudney

General Meeting Luncheon Committee,
Mrs. Clifford T. Ekelund, Chairman
Mrs. Harold A. Furlong
Mrs. C. A. Neafie

Women's Golf Committee,
Mrs. A. D. Riker, Chairman
Mrs. Campbell Harvey
Mrs. Donald F. Hoyt

The Auxiliary is planning a special sightseeing trip to the Cranbrook School and estates in Bloomfield Hills.

An evening bridge party Tuesday evening, September 22.

Style show to be held during the convention.

General Meeting of the State Women's Auxiliary will be held Wednesday afternoon, September 23, including luncheon.

Special golfing privileges will be afforded women guests.

Committee Reports

CIVIC AND INDUSTRIAL RELATIONS COMMITTEE

The Civic and Industrial Relations Committee has had three meetings this year, one at the Wardell Hotel in Detroit on January 19, and the other two at the Wayne County Medical Society Club Rooms in Detroit on February 16 and April 20, respectively.

The question of major importance under discussion at all of these meetings was the subject of report blanks for health and accident insurance companies. The Committee invited ten of the outstanding insurance companies to send representatives to the February 16 meeting for the purpose of discussing the question and arriving at some definite solution of the problem. Representatives of four of the insurance companies were present. Inasmuch as the insurance companies presented certain problems which were affected by the various state laws, it was deemed advisable to refer this whole matter to the American Medical Association.

Accordingly, the following resolution was presented to the House of Delegates of the American Medical Association at its meeting in Philadelphia, June 8 to 12, by Doctor J. D. Brook, the Michigan delegate.

"Whereas, the Michigan State Medical Society, through its committee on Civic and Industrial Relations, has made a comprehensive study of the question of filling out claim proofs of Health and Accident Insurance Companies; that this study has extended over a period of three years and has involved an extensive analysis of the subject, including a conference with representatives of several outstanding insurance companies; and that, as a result of such study and conference, the Michigan State Medical Society has adopted suitable resolutions providing for the charging of a fee to the insurance companies of not less than $2.00 for filling out each preliminary and final claim proof, and

"Whereas, the Michigan State Medical Society, by its action in adopting such resolutions, has created the interest and favor of other State Medical Societies in the question, which equally affects every other State Medical Society; and that the Michigan State Medical Society has met with considerable opposition from the insurance companies, for the reason that they object strenuously to the plan, and point out that Michigan represents only a small section of the nation and should not undertake a project affecting the policy of all the insurance companies of the United States, and

"Whereas, the rights and privileges of the individual physicians of the entire United States are involved and are being encroached upon by the Health and Accident Insurance Companies who are continuing to insist that the services of the physician in filling out claim proofs are part of the physician's professional obligation to his patient; that the insurance companies are unwilling to concede that the information given to them is for their own statistical use in properly adjusting claims; and that they are unwilling to pay the physician his fee, therefore

"Be It Resolved, That the House of Delegates of the American Medical Association concur with and approve the action of the Michigan State Medical Society in adopting resolutions providing for the charging of a fee of not less than $2.00 for each preliminary and final claim proof; and that the House of Delegates of the American Medical Association authorize its Speaker to appoint a committee to whom this problem shall be referred,

"Further, That this committee be instructed to study the facts and factors involved and to formulate a national policy that will result in remunerating physicians and surgeons for their services to insurance companies, when rendering these reports that contain expert opinions and professional advice,

"And Further, That the Committee of the Association shall make a full report and recommendation at the next Annual Meeting of the House of Delegates of the American Medical Association."

The House of Delegates referred this resolution to the Bureau of Medical Economics. Doctor R. G. Leland, Director of the Bureau, was authorized to make a study of the question and to report at the next annual meeting of the Association. Doctor Leland has already conferred with your chairman and has obtained all information including correspondence and data upon which the Michigan society based its action in passing the original resolutions

which provoked the controversy between the insurance companies and the medical profession. It is expected that definite recommendations will be forthcoming from Doctor Leland's bureau at the next annual meeting of the American Medical Association in New Orleans. In the meantime the committee recommends that physicians adhere to the Michigan resolutions.

The committee also considered the matter of highway accidents but inasmuch as this question is now being studied by the Michigan State Hospital Association and is also being considered by the State Legislature, it has been deemed advisable that the medical profession refrain from entering into this activity.

In addition to the insurance activities the chairman met upon two occasions in Lansing with the Legislative Committee of the State Society on matters of mutual interest. One of them was the question of establishing Civic Health Committees in the various county societies. The chairman has had numerous conferences with individual physicians regarding the insurance controversy and has also carried on considerable correspondence with the various insurance companies regarding disputes which have arisen between individual physicians and insurance companies as a result of the Michigan resolutions.

The committee recommends that during the coming year more activity be devoted to the study of ecenomic problems affecting physicians in the State of Michigan.

Respectfully submitted,
Harrison S. Collisi, M.D., *Chairman.*

REPORT OF THE LEGISLATIVE COMMITTEE

The following members of the Legislative Committee were appointed by President Ray C. Stone: Earl I. Carr, John B. Jackson, J. M. Robb, John Sundwall and A. H. Whittaker. At the first meeting of the Committee, John Sundwall was elected Chairman and A. H. Whittaker, Secretary.

Due to an action taken by the House of Delegates at the annual meeting of the Michigan State Medical Society, 1930, the functions of the Legislative Committee were limited to those interests and activities concerned with dealing directly with proposed legislation in matters pertaining to public health and to the practice of medicine which would be presented at sessions of the Michigan State Legislature.

AIMS OF THE COMMITTEE

Early in its deliberations, the Committee decided that its work would be as constructive as possible. It wanted the Legislature to feel that the Committee desired most to be of genuine service to the Legislature in helping to determine the merits of the bills pertaining to the health of the public that would be presented to the Legislature during the 1931 assembly. With this purpose in view, the Committee held weekly meetings during the session of the Legislature whereat the many bills pertaining to public health which had been presented during the intersessions of the Committee were considered. Thirteen regular meetings of the Committee were held. The average length of each of the meetings was from 5 to 6 hours. Other meetings were held in conjunction with the Executive Committee of the Satte Medical Society and with the Committee on Civic and Industrial Relations. Moreover, members of the Legislative Committee, during this period, visited 17 different County Medical Societies in the State with a view of discussing the work of the Legislative Committee. Thus, it is seen that the Committee took its work seriously and devoted a great deal of time and effort to it. No lobby was maintained by the Medical Society at Lansing. Not one cent was spent by the Society for the purpose of influencing votes. The meetings of the Committee were open to those who desired to attend. At practically all of the meetings, invited guests and visitors were present, members of the Legislature, representatives from the State Department of Health, members of the Council of the State Medical Society, Chairmen of the Legislative Committees of County Medical Societies, etc.

ACTIVITIES OF THE COMMITTEE

In general, the modus operandi of the Legislative Committee was as follows: When a bill pertaining to public health was introduced in the Legislature, a copy of it was obtained, either in type-written form or after it was printed. The bill was then assigned to some member of the Committee for detailed study and report. Generally, the member of the Committee to whom the bill was assigned would consult other agencies concerned. At the next meeting of the Committee, this member would report his findings and make recommendations. The Committee, then, would discuss the measure and either approve or disapprove of the bill. The action of the Committee was then transmitted to that member or committee in the Legislature concerned with the introduction of the bill.

The Committee did much work during the intersessions. The Secretary and his Assistant collected information relative to the members of the Legislature and to their attitude towards public health and medical legislation. Many letters and other matters regarding the work of the Legislative Committee pertaining to public health legislation were sent out to county medical societies. Every effort was made to stimulate interest on the part of county societies in all matters pertaining to public health and medical legislations. Attention has already been called to the personal visits made by members of the Committee to the County Medical Societies. The Committee feels that all its efforts with the county societies were worth while. It believes that future Legislative Committees should maintain this connection.

The Secretary and his assistant collected information and prepared a working list of the following: 1. List of 265 weekly and 65 daily newspapers; 2. List of 550 Trustees of hospitals; 3. List of memberships in the Michigan State Dental Society; 4. List of 150 physicians who had shown particular interest in medical legislation. Numerous communications were sent out to these with a view of soliciting their help in matters pertaining to medical legislation. The Committee felt that agencies other than the medical profession should be actively concerned with good public health legislation.

The Secretary has made a permanent and convenient file of cppies of this correspondence and of medical and health bills presented to the 1931 Legislature. These files should prove of great value to future Legislative Committees.

During the intersessions of the Legislative Committee, members thereof did much work along the lines of personal interviews and correspondence with people interested in and concerned with public health and medical legislation.

That the work and actions of the Committee, on the whole, were effective may be noted in the fact that in general bills introduced in the Legislature, to which the Committee was vigorously opposed, were not enacted. On the whole, the bills pertaining to public health which were enacted were approved by the Committee.

BILLS CONSIDERED

The following is a list of 61 bills which were carefully considered by the Legislative Committee.

The action taken by the Committee and by the Legislature on these bills are recorded.

HOUSE BILLS

H. B. 28. To Reduce Interest Charge on Small Loans. Committee approved. House Action: Referred to Committee on Judiciary.

H. B. 35. To Include Occupational Disease in Workman's Compensation Law. Committee disapproved. House Action: Referred to Committee on Public Health.

H. B. 48. State Board of Health to Approve Plans for City Water Works. Committee approved. House Action: Approved. Enrolled No. 96.

H. B. 49. To Prescribe Fees for Certified Copies of Births and Deaths. Committee approved. House Action: Approved. Enrolled No. 101.

H. B. 52. To License and Regulate the Business of Making Loans in Amounts of $300 or Less. Committee approved. House Action: Referred to Committee on Judiciary.

H. B. 56. To Transfer Work of Eradicating Tuberculosis in Live Stock to State Department of Agriculture. Committee approved. House Action: Enrolled No. 231. Immediate effect.

H. B. 60. State Administrative Board Measure—to Prohibit Allowance of Funds not Specifically Appropriated. Committee approved. House Action: Approved. Enrolled No. 3. Immediate effect.

H. B. 63. To Provide for the Registration of Unreported Deaths. Committee approved. House Action: Approved. Enrolled No. 26.

H. B. 64. To Regulate the Storage and Disposition of Sewage. Committee approved. House Action: Amended, passed and transmitted.

H. B. 65. To Provide for the Registration and Supervision of Medical Testing Laboratories. (As this bill was first submitted it affected every laboratory where bacteriological or serological tests were made, whether it be a private physician's office or a hospital laboratory. The committee conferred with laboratory operators, and with the introducer of the bill, and had its provisions limited to "public" laboratories.) Committee approved after certain amendments. House Action: Approved. Enrolled No. 21.

H. B. 69. Volunteer Firemen Included in Workmen's Compensation Law. Committee studied but took no action. House Action: Approved. Enrolled No. 48. Immediate effect.

H. B. 73. Relating to Diseases of Livestock. Committee approved. House Action: Enrolled No. 149. Presented to Governor.

H. B. 75. To Provide for the Medical and Surgical Treatment of Indigent Children in Hospitals approved by the State Board of Health. Committee carefuly considered bill. House Action: Passed and transmitted. Immediate effect.

H. B. 85. To Establish a State Tuberculosis Sanitorium in Northern Michigan. This was Speaker Ming's bill, and he appeared before the committee to discuss it. Committee approved construction of the hospital, and approved his malt tax method of raising the necessary money. House Action: Approved. Enrolled No. 77.

H. B. 86. To Repeal Saginaw County Act Providing for County Poor Physician. Committee gave bill much consideration. Bill referred to Saginaw County Committee. House Action: Approved. Enrolled No. 9. Immediate effect.

H. B. 87. To Provide that Supervisors May Require Affidavits from Persons Unable to Care for Indigent Patients. Committee gave this much consideration. Referred to Saginaw County Committee. House Action: Approved. Enrolled No. 10. Immediate effect.

H. B. 88. To Give County Health Departments Power to Employ Physicians and Nurses. Committee gave this much consideration. Referred to Saginaw Committee. House Action: Approved. Enrolled No. 8. Immediate effect.

H. B. 95. Issuance of Drivers' Licenses Every Three Years. Committee took no action. House Action: Referred to Committee on Transportation.

H. B. 97. Regarding Mill Tax Method of Supporting University. The Committee was divided on the wisdom of taking part in this matter. It was referred to the Council which voted not to take any action. House Action: Referred to Committee on Ways and Means.

H. B. 143. To Provide for a State Board of Chiropractic Examiners. Committee vigorously opposed this bill. House Action: Amended, passed and transmitted. Senate did not act on this bill.

H. B. 144. To Provide for Medical Examination of Person Charged with Driving While Drunk. Committee opposed this on the ground that it would be an unnecessary annoyance to the average physician. Bill passed the House. Senate took no action.

H. B. 153. To Provide for the Licensing of Plumbers. Studied by committee but found to have little bearing on health matters. House Action: Approved. Enrolled No. 43. Immediate effect.

H. B. 315. To Permit Admittance of Indigent Patients to Other than University Hospital at Discretion of Court. Committee approved bill. House Action: Amended, passed and transmited.

H. B. 331. To Create a Public Welfare Board. Committee studied bill but took no action. House Action: Referred to Committee on Public Health.

H. B. 337. To Permit Admittance of Indigent Patients to any Hospital Approved by the Commissioner of Health and to Limit County's Liability to $3.50 a Day. Committee studied bill and took no action. House Action: Referred to Committee on Public Health.

H. B. 338. Relation to Cemetery Funds. Committee studied bill and found no connection with health matters. House Action: Presented to Governor. Enrolled No. 161.

H. B. 357. The State Board of Medical Registration's Amendments to the Medical Practice Act. Committee's action—this bill is discussed later on in this report. House Action: Referred to Committee on Public Health.

H. B. 369. To Provide a Substitute for the Present Narcotic Act. Committee approved. House Action: Presented to Governor. Enrolled No. 146. Immediate effect.

H. B. 376. To Eliminate Provision Necessitating Construction of 50-bed Sanatorium. Committee approved. House Action: Referred to Committee on Public Health.

H. B. 402. To Accept Report of any Registered Physician of Physical Examination of Drivers of Vehicle for Hire. Later amended. Committee disapproved. House Action: Ordered Enrolled. Enrolled No. 220.

H. B. 447. To Authorize Establishment of Psychiatric Clinic at Jackson Prison for Scientific Study of Convicted Felons. Committee approved. House Action: Referred to Committee on Ways and Means.

H. B. 467. To Limit State Aid to Counties to the Amount Appropriated for the Treatment of Indigent Patients. Committee approved. House Action: Approved. Enrolled No. 80.

H. B. 472. To Exclude Persons Afflicted with Traumatic Epilepsy from Sterilization Act. Committee approved. House Action: Passed and transmitted. Immediate effect.

H. B. 490. New Plumbing Code. Committee studied and found no bearing on health matters and took no action. House Action: Ordered printed and re-referred to Committee on Public Health.

H. B. 501. Supervisors—to Prohibit Other than Physicians and Undertakers from being Interested in County Contracts. Committee did not make complete study of bill. House Action: Referred to Committee on Towns and Counties.

H. B. 521. To Require Father of Illegitimate Children to Pay Confinement Expenses. Committee approved. House Action: Referred to Committee on Judiciary.

H. B. 533. To Authorize Circuit Courts in Chancery to Require Physical or Mental Examinations in Suits for Divorce. Committee made no recommendation. House action: Referred to Committee on Judiciary.

H. B. 608. Amendments to Chiropodists' Board Act. Committee disapproved of attempt of Chiropodists to treat "ailments of human leg and foot." House Action: Amended, passed and transmitted.

H. B. 622. To Allow Physicians of any Class to be Appointed to State Board of Registration in Medicine. Committee did not approve bill. House Action: Referred to Committee on Taxation.

SENATE BILLS

S. B. 7. Nurses' Bill to Provide for Board of Registration, etc. Committee, after conference with those actively concerned with sponsoring of bill, recommended its withdrawal. Bill withdrawn.

S. B. 12. Authorizing Commissioner of Agriculture to Refuse or Revoke Licenses of Milk Dealers. It had no direct bearing on health matters. Committee considered bill. Senate Enrolled Act No. 26. Immediate effect. Approved by Governor.

S. B. 13. Prohibiting Cropping of Dogs' Ears. No bearing on vivisection. Senate Enrolled Act No. 35. Approved by Governor.

S. B. 26. Reducing Number of Coroners in Wayne County from Two to One. Committee tried to get a conference with Coroner French but was unable, so no action was taken. Senate Action: Referred to Committee on Judiciary.

S. B. 54. To Require Sterilization of Water and Soft Drink Containers. No direct bearing on health. No action taken by Committee. Senate non-concurred in House Amendments.

S. B. 60. To Increase Educational Requirements of Embalmers. Committee studied and found this bill had no direct connection with health matters. Senate Enrolled Act No. 84. Presented to Governor.

S. B. 63. To Provide Three Years Drivers' Licenses. Committee saw an opportunity in this bill to obtain health examinations of large numbers of citizens with resulting benefits to health and for combating degenerative diseases. Senate Action: Referred to Committee on Transportation.

S. B. 74. To Regulate Practice of Cosmetology. Committee studied bill carefully and approved of it. Later an amendment was submited providing for acceptance of examination of candidates by "osteopathic physicians." Committee opposed amendment. Amendment withdrawn. Senate Enrolled Act No. 48. Presented to Governor.

S. B. 84. To Allow Physicians to Prescribe Full Pint of Liquor. No direct bearing on public health and no action. Senate Action: Referred to Committee on Prohibition.

S. B. 107. To Provide for Investigation of Financial Condition of Patients before Admitting Them to Hospitals as Public Charges. Committee approved bill. Senate Action: Referred to Committee on Public Health.

S. B. 119. To Declare the Policy of the State of Michigan with Reference to Crippled Children. Committee approved

original bill. Bill amended last moment to include Osteopaths. Committee did not have opportunity to act on amended bill. Senate Action: Enrolled Act No. 131. Given immediate effect. Vetoed by Governor.

S. B. 135. To Limit Interest on Small Loans. Committee approved because it frequently occurs that a patient must borrow to pay hospital and medical bills. Loan interest rate too high. Senate Action: Re-referred to Committee on Judiciary.

S. B. 148. Regulating Practice of Pharmacy. After conference with leading pharmacists, committee approved. Senate Action: Ordered Enrolled Act No. 129.

S. B. 165. To Include new Ypsilanti Hospital under State Hospital Commission. Committee approved. Senate Action: Ordered Enrolled Act No. 74. Given immediate effect.

S. B. 167. To Put New Ypsilanti Hospital on State List. Committee approved. Senate Action: Enrolled Act No. 107. Presented to Governor.

S. B. 184. To Amend Present Osteopathic Act. The Committee opposed bill. Senate Action: Referred to Committee on Public Health.

S. B. 192. To Allow Contiguous Townships to Construct Hospitals. Committee approved. Senate Action: Passed, transmitted to House.

S. B. 201. Requiring Conviction of Physician before License can be Revoked. Committee disapproved. Senate Action: Referred to Committee on Judiciary.

S. B. 211. To Allow Increased Exemptions from Garnishment Act Where Person Garnished is Supporting Minor Children. Committee studied bill late in session but made no recommendations. Senate Action: Passed, transmited to House.

S. B. 223. Allowing Board of Education to Hire Physicians. Committee studied bill. Took no action. Senate Action: Ordered Enrolled Act. No. 124.

S. B. 240. To Abolish Present Crippled Children's Commission and Create New One Under State Welfare Department. Committee approved. Senate Action: Passed, transmitted to House.

S. B. 279. To Provide for the Examination, Regulation, Licensing and Registration of Physicians and Surgeons to Put Osteopaths on Par with Allopaths. Senate Action: Referred to Committee on Public Health.

SPECIAL INTERESTS OF THE COMMITTEE

While all bills pertaining to public health and the practice of medicine, presented at the Legislative Assembly of 1931 were of much interest to and received due consideration and action from the Legislative Committee, the Chiropractic Bill, the Osteopathic Bill, the Nurses Registration Bill, and the State Board of Medical Registration Bill were of special concern to the Committee.

The Committee maintained that no legal recognition should be given to any system of medicine which is not based on an adequate scientific training in those sciences which acquaint one with the structure, functions and care of the human body. It was, therefore, unalterably opposed to both the Chiropractic and Osteopathic Bills. Neither bill was enacted.

The Nurses Registration Bill was withdrawn.

The Committee found itself in a somewhat difficult position in regard to the State Board of Medical Registration Bill. It began its work with the understanding that no medical registration bill would be presented by the Michigan State Medical Society during the 1931 Legislative Assembly. The Council of the Michigan State Medical Society had previously agreed to support the recommendations of the Legislative Committee of 1930, to the effect that the Medical Society look forward to and work towards a constitutional amendment and legislative enactment whereby the functions and powers of certification and licensure for all the professions would be centered in a reconstructed Michigan State Department of Education.

The Committee realized that much time and effort would be required to consumate legislation which would bring about this recommendation. However, it felt that any legislation which had for its object the legal recognition of any profession and the establishment of a licensure board for this profession should be discouraged until after the idea of centering all licensure and certification for all professions in a State Department of Education has been given due consideration by all concerned. With this in mind, the Legislative Committee felt that it would not be consistent to present a medical registration bill in 1931.

In the meantime, the Board of Medical Registration prepared and presented a bill. It maintained that certain amendments to the existing medical practice act were necessary because of difficulties in the enforcement of the law and because of changed conditions in medical education. The bill provided for the appointment of 10 reputable licensed physicians to constitute the Board of Registration in Medicine. It provided for the authorization on the part of the Board to designate the examination subjects and fees. It provided for penalties, revocations, hearings, annual registration and certification of specialists.

This Bill was discussed before the Executive Committee of the Council and Legislative Committee of the Medical Society. The following two paragraphs are taken from a circular letter sent to County Secretaries under date of February 25, 1931, signed by the Chairman of the Council:

"Although it should be clearly understood that these amendments come from the Board of Registration and the Attorney General's office, the Legislative Committee of the Council and the Council of the Michigan State Medical Society thoroughly approve of them and urge your support."

"We enclose for your information a brief statement of the amendments, with the arguments why they should be supported. You will note that in this bill there are, however, two sections, ten and eleven, which may not properly be termed amendments to the act, the one having reference to *annual registration* and the other *to registration of specialists*. The Executive Committee feels that there is much virtue in both sections ten and eleven, but hesitate to give their endorsement without expression from the profession."

In view of the expressed emergency nature of this Bill and of the action taken, the Legislative Committee worked for its enactment. The Bill was discussed before 17 County Medical Society meetings. The Bill was not enacted.

Senate Bill 119.—Crippled Children, as originally presented, was approved by the Committee. At a late moment, it was discovered that the Bill had been amended to include "osteopathic physician." It was too late for the Committee to take any action. The Bill was enacted. Opposition to the Bill was expressed to the Governor by members of the Committee and Council. The Governor vetoed it.

Throughout its deliberations, the Committee had in mind the recommendation of the Legislative Committee of 1930 which was approved of by the Council that the Medical Society look forward to transferring the functions and powers of Medical Licensure to a reconstructed strong Michigan State Department of Education. The Committee believes that this is the only satisfactory and permanent solution of this now ever recurring and vexing problem.

It made several efforts to get this matter before the Governor for his interest and support. It took the proposal up with certain members of the Senate suggesting that the Legislature appoint a Commission to study this problem of licensure and certification for all professions during the intersession and report to the Legislative Assembly of 1933. The Committee felt that this would prove to be genuine, comprehensive and constructive statesmanship.

The outcome of this recommendation was not as complete or inclusive as the Committee had anticipated. On May 20, 1931, the following Resolution was introduced by Representative Culver. It was later approved by the House and Senate.

A concurrent resolution providing for the appointment of special legislative committee on the study and adjustment of present and proposed law concerning the practice of the healing art.

Whereas, the antipathy and rivalry of the various schools and methods of practicing the Healing Art in the State of Michigan has reached a point where the representatives of the various schools seem to be unable to arrive at a definite solution of their problems through the regular channels of legislation; and

Whereas, the present State Board of Registration in Medicine is admited to be illegally constituted, owing to the fact that the requirements of the present law in regard to the personnel of said Board have not been complied with for a number of years; and

Whereas, entirely definite and different problems exist in regard to various schools of medicine and methods of practicing the Healing Art; therefore be it

Resolved by the House of Representatives, the Senate concurring, that a special commission, consisting of four members of the House of Representatives, to be appointed by the Speaker, and three members of the Senate, to be appointed by the President, be known as a special legislative committee on the Study and Adjustment of present and proposed Laws concerning the Practice of the Healing Art. Members of said commission shall serve entirely without compensation or without expense to the State of Michigan for the purpose of preparing and submititng a plan and accompanying legislation to the next regular or special session of the Legislature, and be it further

Resolved, that such commission be appointed to perform its duties without expense to the State of Michigan.

The members of this Joint Committee were appointed as follows:

House:
- Representative Culver
- Representative Darin
- Representative Jefferies
- Representative Southworth

Senate:
- Senator Conlon
- Senator Lawson
- Senator Upjohn

While the Resolutions limit the interests and activities to "present and proposed laws concerning the practice of the healing art," it is the hope and anticipation of the Legislative Committee that the Committee of the Michigan State Legislature will give every consideration to the problem of licensure and certification for all the professions now established and for those which will seek legal recognition and regulation in the future.

With a view of keeping in mind this idea of of working towards one central certificating and licensing agency, The Michigan State Department of Education, for all the professions and other vocations now legally recognized and regulated and for future professions or other vocations seeking legal recognition and regulations, the Committee submits the following:

CENTERING THE FUNCTIONS AND POWERS OF CERTIFICATION AND LICENSURE FOR PROFESSION AND OTHER VOCATIONS SEEKING LEGAL RECOGNITION IN A STATE DEPARTMENT OF EDUCATION.

Effective licensure or certification for all professions and other vocations involves: 1. A thorough knowledge of the character of the schools, elementary schools, high schools, colleges and universities, and professional schools, in which the applicant for a certificate or license to practice a profession or other vocation has had his training; 2. A knowledge of the quality of work which the applicant has done in these educational and training institutions; 3. A licensing or certificating or qualifying examination.

In other words, the processes of licensure or certification are simply those of looking into, evaluating and determining education qualifications. It is an educational problem. A State Department of Education is the one agency of the State which should be best equipped to look into, evaluate and determine the educational qualifications of him who desires to practice a profession or certain other vocations seeking legal recognition.

Today the State of Michigan, in addition to the certification of teachers by the State Board of Education, has enacted special legislation relative to the educational qualifications of and has constituted certification or licensure boards for the following vocations: Accountants, Architects and Engineers, Surveyors, Barbers, Chiropody, Embalmers, Dentistry, Law, Medicine, Nursing, Optometry, Osteopathy, Pharmacy, and Plumbers.

During the Legislative Assembly, 1931, several of these vocations were seeking amendments to their respective laws. New interests were seeking legal recognition—Chiropractors, Laboratorians, Cosmeticians.

The futility of continuing this old procedure of legal recognition is readily seen.

Advantages to be Gained From Centering the Functions and Powers of Certification and Licensure in a State Department of Education.

1. *Advantages to the State Government:* Far too much time and effort, with all the accompanying irritations, lobbying, "trades," suspicions and so on, are now taken up by the state legislature in enacting legislation relative to licensing or certificating regulations. This type of legislation is concerned with: 1. Amending existing laws which must be continually amended in order to conform with the ever changing trends in professional education and, 2. With the creating of new laws and new boards of registration for the ever increasing new professions and trades seeking legal recognition in the form of regulations relative to educational qualifications and to the setting up of special licensing and certificating boards.

How much more simple and effective it would be to establish a strong State Department of Education and refer to it the functions and powers of licensure and certification for all professions and other vocations. Assuredly, if this is done, future legislatures would have much more interest, time and energy for important and constructive legislation.

Moreover, the Governor would be spared the vexing problem of making almost innumerable appointments to the many and ever increasing boards of registration.

2. *Advantages to the State Department of Education:* At present the functions and powers of the State Board of Education in Michigan are limited to the general supervision of the state teachers' colleges and to the certificating of teachers. The functions and power of the Superintendent of Public Instruction are limited to the general supervision of public schools. In other words, the functions and duties of our State Education Department and State Superintendent of Public Instruction are centered on the teaching profession, his training and certification. This Department of Education, therefore, is regarded as one which is of concern only to the teaching profession.

Now, if all the functions and powers pertaining to educational qualification for the professions and other vocational seeking legal recognition were centered in the State Department of Education, this Department would become a much more effective and important agency in the State Government.

This can and should be done without an increase in the State's tax supported budget. Let us refer to the following: The total disbursements of the State of Michigan, fiscal year ending June 30, 1931, for the Department of Public Instruction (Administrative) was $134,995.78. The total receipts credited to 12 other licensing and registration boards during this fiscal year were approximately $167,000. Examination and registration fees and annual registration fees which should be paid in by members of each profession or other vocation, combined, should go far toward the support of the State Department of Education.

6. *Advantages to the Professions and Trades Seeking Legal Recognition:* These may be summarized as follows:

a. The professions and other vocations seeking

legal recognition would be freed from the suspicion of seeking special legislation—proprietary legislation.

b. They would become closely knitted together in their understanding and sympathies and in their efforts to see to it that the highest type of professional service is furnished to the people of Michigan.

c. The single machinery essential for the enforcement of the laws, may be utilized by all the professions. At present, the 13 different licensing and certificating bodies now set up in Michigan maintain, more or less, separate enforcement machineries.

d. The various professions and other vocations concerned can deal directly with the State Department of Education relative to educational qualifications and to other matters concerned without going through the long method of legislation.

PROCEDURE

Article XI, Section 2 and Section 6 of the Constitution should be amended in order to establish a strong State Department of Education. In general, the amendment should provide for an increase in the membership of the Board of Education to, let us say, seven or nine, to enlarge the duties and powers of this Board, and to give this Board the powers to appoint a Commissioner of Education who shall serve during the pleasure of the Board.

The idea of centering the functions and powers of Certification and Licensure in a strong Department of Education has been discussed before several groups representing several professions. In general, the reaction has been that a State Department of Education should be set up which should be given all the functions and powers of certification and licensure for vocations which will seek legal recognition in the future and for all vocations now legally established which desire to transfer these functions and powers to the State Department of Education in the Future.

Respectfully submitted,

Earl Carr
John Jackson
James Robb
Alfred Whittaker
John Sundwall, *Chairman*

CANCER COMMITTEE

The first meeting of the Cancer Committee of the Michigan State Medical Society was held on December 3, 1930, in the club rooms of the Wayne County Medical Society.

After discussion it was decided to begin the committee's work by making a survey of the facilities for the diagnosis and treatment of cancer in each county of the state.

The second meeting was held on February 24, 1931, in the club rooms of the Wayne County Medical Society. At this meeting we were honored by having Dr. James Ewing as our guest and availed ourselves of his expert counsel. At this meeting the following questionnaire was presented and approved:

This questionnaire was sent to the secretary of each of the county societies in the state. Replies have now been received from practically all counties and a digest of this information is available for reporting to the coming meeting of the State Society.

A third meeting of our committee will be called at the time of this State meeting.

Faithfully yours,
Chas. E. Dutchess, *Chairman.*

Suggested Form for Reporting Facilities for Diagnosis and Treatment of Cancer
(Including all forms of malignancy.)

DIAGNOSIS

1. In your county, is there a well equipped X-ray organization prepared to do gastrointestinal studies, interpret bone lesions, etc?
   Remarks:
2. Are the following special examinations available in your county?
   (a) Sigmoidoscopic.
   (b) Cystoscopic.
   (c) Broncho-and esophagoscopic.
   (d) Retinoscopic, laryngoscopic, intranasal, etc.
   Remarks:
3. (a) Has your county an expert tissue diagnostic laboratory?
   (b) Are there facilities for frozen section diagnosis?
   Remarks:
4. (a) Is there any cancer research institute?
   (b) Is there any cancer or tumor hospital?
   (c) Is there any cancer or tumor registry?
   (d) Is there any permanent cancer clinic operating either separately or as part of the organization of a general hospital?
   Remarks:
5. Are all of above facilities available to patients of limited or no means? If not, what facilities are available to such patients?
   Remarks:

TREATMENT

1. Is expert cancer surgery, both general and in special fields, available to patients of all classes in your county?
   Remarks:
2. Is there a deep therapy plant in your county? What is its maximum voltage?
   Remarks:
3. Is there any radium owned in your county? If so, how much is owned by any individuals or organized groups, *i.e.*, how much is available for the treatment of any individual patient?
   Remarks:
4. Is there any radium emanation plant?
   Remarks:
5. Are local practitioners giving treatment with rented radium or emanation?
   Remarks:
6. Is there an institution for the care of incurable cancer patients? If so, is it open to patients without means?
   Remarks:
7. Is provision made for obtaining and recording follow-up information on all cancer patients from time of diagnosis to death or five year cure?
   Remarks:

Name of county society.

Signed:

Secretary.

JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION

The Joint Committee on Public Health Education has held two meetings during the year, one on Jan. 22, held in conjunction with the Council and State Secretaries, and the second on June 1. The scope of the committee's activities is increasing each year. Last year the number of people reached by this service was larger than for any previous year since the work was begun. Forty thousand high school students heard from two to five lectures and the total aggregate attendance on all lectures was over one hundred and fifty thousand. The committee is also conducting a health column in the Detroit News and this service will be extended to other newspapers. The committee is also coöperating with the State Department of Public Instruction in a course of study in health for schools of the State. This very considerably enlarges the scope of the activities of the committee.

A tentative program is proposed for the next three years. This program includes the following:

First, the educational work including the organization of health programs for high schools and Parent-Teachers Associations, to be under the direction of Dr. C. A. Fisher.

Second, Dr. Soller will be assigned the field work which is to include personal contacts with local medical societies, the organization of courses, and the giving of lectures in connection with the assignments made by Dr. Fisher.

Third, that phase of the work which has to do with the selection of a staff of lecturers will be in direct charge of Dr. Henderson. His task is to in-

crease the number of speakers and to organize the group both with reference to geographical distribution and speaking efficiency.

Fourth, this phase of the proposed program has to do with the preparation of a Lecture Outlines Library. This will include the preparation of lecture outlines and will be under the direction of a special committee appointed for this purpose.

At the last meeting of the committee it was voted to invite the Children's Fund of Michigan and the Kellogg Foundation to have representatives on the committee.

In these days of changing economic and social conditions the importance of a proper understanding between the public and the medical profession cannot be too much emphasized. The attitude of the public toward the medical problems depends on their appreciation of medical science. It is amazing to realize how little information on medical matters is possessed by many people well informed on other matters. To overcome this situation and thus help solve some of the problems before us is the task of this committee. Next to our continued program of improving the standards of medical practice, the education of the public in health matters is the most important function of organized medicine. Every physician in our society should appreciate a responsibility in doing his share in this program of education.

In closing this brief report of the committee it is pertinent to quote the purpose of the committee it is pertinent to quote the purpose of the committee which wording was adopted at the time the committee was formed ten years ago, "To present to the public fundamental facts of modern scientific medicine, for the purpose of building up sound public opinion relative to questions of public and private health. It is concerned in bringing the truth to the people, not in supporting any school, sect or theory of medical practice. It will send out teachers not advocates.

LOCAL COMMITTEES 1931 ANNUAL SESSION

General Chairman.....Robert H. Baker

Centennial Committee Frederick A. Baker, Chairman
Leon F. Cobb
John D. Monroe
Charles A. Neafie

Halls.....P. V. Wagley, Chairman
Ethan B. Cudney
John Lambie
F. D. German
Karl Zinn
Donald Hoyt

Hotels and Rooms....Clifford T. Ekelund, Chairman
Loren C. Sheffield
L. Warren Gately
E. Kyle Simpson

Entertainment.....Aaron D. Riker, Chairman
L. A. Farnham
Bertil T. Larson
Edward Christie
B. M. Mitchell

Publicity.....A. V. Murtha, Chairman
Chauncey Burke
Donald F. Hoyt
George A. Sherman
Charles A. Neafie

Registration.....Harold A. Furlong, Chairman
Robert Cooper
Harry A. Sibley
Frank A. Mercer
C. G. Darling, Jr.

Sessions of the Council

September 21, Monday—
4:00 P. M.—Waldron Hotel
6:00 P. M.—Dinner
7:00 P. M.—Evening Session

September 22, Tuesday—
12:00 Noon—Waldron Hotel
6:00 P. M.—Waldron Hotel

September 23—Wednesday—
12:00 Noon—Waldron Hotel

COUNCILOR DISTRICTS

First District.—Wayne

Second District.—Hillsdale, Ingham, Jackson

Third District.—Brance, Calhoun, Eaton, St. Joseph

Fourth District.—Allegan-Kalamazoo-Van Buren, Berrien, Cass.

Fifth District.—Barry, Ionia-Montcalm, Kent Ottawa

Sixth District.—Clinton, Genesse, Shiawassee

Seventh District.—Huron, Lapeer, Sanilac, St. Clair

Eighth District.—Gratiot-Isabelle-Clare, Midland, Saginaw, Tuscola, and Cladwin unattached.

Ninth District.—Grand Traverse-Leelanau, Manistee, Benzie, Tri (Kalkaska, Missaukee, Wexford)

Tenth District.—Bay-Arenac-Iosco, O. M. C. O. R. O. (Otsego, Montmorency, Crawford, Oscola, Roscomemon and Ogemaw combined)

Eleventh District.—Mason, Mecosta, Muskegon, Oceana, Newaygo, Osceola-Lake

Twelfth District.—Chippewa-Mackinac, Delta, Dickinson-Iron, Gogebic, Hought-Baraga-Keweenaw, Luce, Ontonagon, Marquette-Alger, Menominee, Schoolcraft

Thirteenth District.—Alpena-Alcona, Northern Michigan (including Antrim, Charlevoix, Cheboygan, Emmet, Presque Isle

Fourteenth District.—Livingston, Lenawee, Monroe, Washtenaw

Fifteenth District.—Macomb, Oakland

OTTO LEE RICKER

Doctor Otto L. Ricker of Cadillac died at Blodgett Hospital, Grand Rapids, on August 12, 1931.

Doctor Ricker was a Councilor of the State Society for a period of eight years and a resident of Cadillac since his graduation from the Detroit College of Medicine in 1904. He was first associated with Dr. McMullen of that city. He served in many capacities in his local and state organizations; he was a veteran of the world war and an outstanding citizen in his community. The sincere sympathy of the Society is extended to his wife and family. The next issue of the Journal will contain a more extended review and record of his life of service and activity.

SOCIETY ACTIVITY

COMMENTS ON ACTIVITY

Standing Committee reports are contained in this issue. They impart additional organization work. Committee members have given generously of their time in the performance of their work.

* * *

We are receiving large numbers of inquiries as to suitable location for practice. At the present time we are uninformed as to openings. We shall be grateful for information as to suitable openings or locations in order to aid those who desire a location.

* * *

A Committee of the Grand Rapids bar has brought out a report imparting the illegal practice of law by banks, Trust Companies, Collection Agencies, Insurance Companies and others. The Committee recommends action to terminate illegal practice of law. Apparently the lawyers also feel the effects of the depression and are disinclined to condemn services that deprive them of income. We wonder if we might not be justified in calling to them as they have so long charged and called to us—"jealousy," "persecutions," "afraid of competition," "medical trust," etc. There are some seven hundred violators of the medical practice law in the State and yet lawyers use every court means to enable these violators to continue practice. We shall be more sympathetic with the lawyer's enforcement quest just as soon as he aids enforcement in medicine, dentistry and the other licensed professions and trades.

* * *

This brings up corporation practice of medicine. This subject is receiving the immediate study and attention of your council officers. Your Secretary is Chairman of a Committee of the American Federation of Licensing Boards that is conducting a nation-wide study of corporation practice of medicine and the legal factors involved. The Supreme Court of California has declared such practice illegal. A report will be made at the Federation meeting in February.

* * *

Once more the members' attention is called to our annual meeting and the program that will be carried out for that meeting. Attendance is urged.

Delegates will please note the time assigned for the three sessions of the House.

The Oakland County profession is eager to have you accept its hospitality. A large attendance will reward them for the efforts and energy they are exhibiting. There are ample hotel accommodations, yet we recommend you write for your reservations.

The following guests will participate in the program:

Morris Fishbein, Chicago
Charles Kiley, Cincinnati
Charles H. Watkins, Rochester
Walter M. Simpson, Dayton
J. A. Meyers, Minneapolis
Fred W. Rankin, Rochester
D. B. Phemister, Chicago
Dean Lewis, Baltimore
Arthur H. Curtis, Chicago
Fred L. Adair, Chicago
John A. Bigler, Chicago
Loyal Davis, Chicago
J. P. Leake, Washington
Paul A. O'Leary, Rochester
Peter C. Kronfeld, Chicago
Wm. V. Mullin, Cleveland

Surely a striking list of recognized clinicians and teachers. Men whom we would travel far to hear. They are at your door. Do not forego hearing them and the others who are on the program.

MINUTES OF THE JULY MEETING OF THE EXECUTIVE COMMITTEE OF THE COUNCIL

Pursuant to call the Executive Committee met in Muskegon on July 22, 1931.

Present:

B. R. Corbus, *Chairman*
Henry Cook
C. E. Boys
George L. Le Fevre
James D. Bruce
R. C. Stone, *President*
Carl F. Moll, *President-Elect*
F. C. Warnshuis, *Secretary*

1. The Secretary suggested that he be authorized to secure one or two individuals who will operate a booth at the scientific exhibit, at our Annual Meeting, for the purpose of selling the Medical History of the State Medical Society on a commission basis. Upon motion of Boys-Le Fevre, this was approved.

2. A communication was received from

the Secretary of the Washtenaw County Medical Society relative to certain amendments pertaining to the National Prohibition Act. Upon motion of Cook-Le Fevre, the communication was placed on file for future consideration.

3. The Secretary presented the question of an honorarium for the Chairman of the Medico-Legal Committee. Upon motion of Le Fevre-Cook, the Secretary was directed to institute that honorarium of $1,000 per year beginning May 19, 1931.

4. The Secretary presented a communication of the counsel of the society relative to instituting a test suit to determine the ownership of X-ray films. This letter was in reply to an inquiry the Executive Committee had directed to be made of our legal counsel. After considerable discussion, upon motion of Cook-Le Fevre, it was determined that at the present time the expenditure entailed in such a suit should not be undertaken.

5. The Chairman and the Secretary reported upon the proposed complimentary dinner to Regent Richard R. Smith. It is proposed to tender this dinner under the auspices of the Fifth Councilor district sometime during the latter part of October of the present year.

6. The Secretary presented a report as of July 22, 1931, relative to collection of membership dues for the current year. The report revealed 2,871 members had paid their dues and that there were 650 delinquents. The majority of the delinquents are from counties having the larger industrial cities. After considerable discussion in which the Executive Committee viewed, with considerable concern, the general conditions entailed in the present financial depression and their effect upon the physicians of the state, upon motion of Bruce-Cook, the Secretary was directed to carry these members upon the rolls of the Society and to accord to them all the privileges of membership until further action was taken by the Council.

7. The Secretary presented a detailed financial report of the Society as of this date. It was discussed by the members of the Committee and the Chairman of the Finance Committee of the Council, and upon motion of Bruce-Boys, the report was approved and the Secretary directed to continue keeping the funds of the society in the present depositories.

8. The Secretary raised the question of section reporters at our Annual Meeting. After considerable discussion, upon recommendation of the Chairman of the Publication Committee it was moved by Boys-Le Fevre that section stenographers be dispensed with for the coming Annual Meeting and the Secretary be authorized to employ one reporter for the session of the House of Delegates and for the two general meetings.

9. The Chairman of the Publication Committee reported that his committee realized that owing to present conditions there exists a need for certain retrenchments in the publication of the Journal, and that the committee had under consideration certain plans for accomplishing the same. Upon motion of Le Fevre-Cook, the Publication Committee was authorized to exercise its judgment as to the scope and nature of these retrenchments and to institute same.

10. The Secretary raised the question of sending an individual questionnaire to the members of the Wayne County Medical Society, concerned with the several foundations and health units now operating in this state. After considerable discussion it was the sentiment of the Executive Committee that the Council of the Wayne County Medical Society be requested to set forth a statement reflecting the sentiment and attitude of its members, and that for the present no individual questionnaire be sent to the members of the Wayne County Medical Society.

11. The Chairman of the Council reported certain discussions and interviews that he and President Stone had had with representatives of the Children's Fund of Michigan. After discussion it was moved by Boys-Cook, that Dr. Cary of the Children's Fund be invited to confer with the Executive Committee at a future convenient date.

12. The Secretary reported upon different types of lanterns for the several scientific sections of the Society. Upon motion of Le Fevre-Boys, the Secretary was directed and authorized to purchase these new lanterns.

13. Upon motion of Le Fevre-Cook, the Executive Committee decided to meet in Ann Arbor on August 19, 1931.

14. Upon motion of Bruce-Cook, the Executive Committee adjourned at 10:20 P. M.

F. C. Warnshuis, *Secretary.*

COUNTY SOCIETIES

ALPENA AND NORTHERN MICHIGAN SOCIETIES

A joint meeting of the Alpena and Northern Michigan Medical Societies was held at Pinehurst Hotel, Indian River, July 9, 1931, the local dentists being also invited. More than fifty enjoyed the excellent dinner served.

Following dinner, the doctors, dentists and several of the ladies convened to hearken to the speakers present for the evening, Councilor Van Leuven presiding.

Dr. Slemons gave a timely résumé of the activities of the State Department of Health in its relations to practitioners.

Mr. Norton, of the Children's Fund, gave authentic information concerning the activities of that organization. Those present—the dentists especially—seemed much informed by his assurance that the Couzen's Staff is rendering treatment only to the indigent and not competing with private practice.

Dr. James Bruce, of the University, dwelt upon the policies of that institution and what it is endeavoring to do for the physician. He gave assurance of the Hospital's desire to take care of indigent cases only, and that it is the intent to accept pay patients only when referred by a physician, as long as they can thus obtain clinical material sufficient for student needs.

Speaker Ming narrated in some detail how he had done his best, not being a politician, to achieve the establishment of a tuberculosis hospital for Northern Michigan. The Speaker evinced touching solicitude that certain tuberculous families be aided in receiving sane, scientific medical care.

Dr. Otto Ricker, Councilor of the ninth district, was called upon and responded with his usual fiery eloquence.

Another distinguished guest inadvertently left off the program, was Dr. John D. Milligan, F. A. C. S., of Pittsburgh, Pa., class of '76.

Don H. Duffie, *Secretary.*

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, President, Jackson, Mich.
MRS. W. L. FINTON, Secretary, Jackson, Mich.

Pontiac Convention, September 22-23-24, 1931

All women attending the Convention, whether Auxiliary members or not, are invited to participate in the program.

As we have one day only given over to the business of the Auxiliary we hope that we may have a good attendance Wednesday, September 23. In the morning of that day at 11 o'clock will occur a Round Table for Auxiliary Presidents, who will discuss various problems incidental to their work, and in turn receive helpful suggestions.

At 12:30 the luncheon at the Pine Lake Country Club will be served, following which a program carefully planned by our hostesses will be given. At this date we are unable to announce our guest speaker, but we can assure you that if our present plans materialize, we will spend a most agreeable time in listening to some one very much worth while.

The Pontiac ladies are doing everything in their power to make the Convention a success and assure us of a busy, pleasant time. Special golf privileges have been extended by the Pine Lake Country Club. All ladies interested in playing this beautiful course are urged to bring their clubs.

As each year should show an improvement in interest and attendance over previous ones, let us aim to make the Fifth Annual Convention of the Auxiliary the very best one of all.

Mrs. T. J. Harris.

Pontiac, one of our newest organized societies, is planning on entertaining the Woman's Auxiliary at the time of the Convention in September, from the twenty-second to the twenty-fourth.

An interesting speaker is promised. Helpful suggestions will develop during our county reports, a pleasant renewal of friendships, and a cordial welcome from the entertaining society is sure to await us. Let us make a special effort to attend this convention and to make it really the best one that we have had.

The program for the entertainment of the doctors' wives at the annual meeting is as follows:

Monday morning—Reception of wives of delegates.

Tuesday afternoon—Courtesy ride to Cranbrook and Bloomfield Hills.

Tuesday evening—Bridge Party.

Wednesday, 1 P. M.—Luncheon Pine Lake Country Club, Annual Meeting

Wednesday evening—Style Show or Special Theater.

Thursday—Courtesy rides and golf, etc.

WRITE FOR YOUR HOTEL RESERVATIONS

THE DOCTOR'S LIBRARY

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 14, Number 6, and INDEX VOLUME. (New York Number—May, 1931.) Octavo of 300 pages with 55 illustrations. Per clinic year, July, 1930, to May, 1931. Paper, $12.00; cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1931.

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 15, Number 1. (Mayo Clinic Number—July, 1931.) Octavo of 263 pages with 56 illustrations. Per clinic year, July, 1931, to May, 1932. Paper, $12.00; cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1931.

THE SURGICAL CLINICS OF NORTH AMERICA (Issued serially, one number every other month.) Volume 11, No. 3. (New York Number—June, 1931.) 239 pages with 73 illustrations. Per clinic year (February, 1931, to December, 1931): paper, $12.00; cloth, $16.00. Philadelphia and London: W. B. Saunders Company, 1931.

FOOD ALLERGY, ITS MANIFESTATION, DIAGNOSIS AND TREATMENT, WITH A GENERAL DISCUSSION OF BRONCHIAL ASTHMA. By Albert H. Rowe, M.S.M.D., Lea & Febiger, Philadelphia, 1931.

This book represents a very excellent elaboration on the manifestations and treatment of food allergy including a rather complete bibliography of the subject. It contains many practical suggestions regarding diagnosis and treatment of these cases. Especially useful to the clinician are the diets and recipes for food-sensitive patients devised by the author, who is the originator of the ingenious method of treating food allergy by means of elimination diets.

Of necessity from a book which is entitled "Food Allergy," one expects that the food factor in connection with allergy may be unduly over-emphasized. Indeed an analysis of this valuable book reveals that the author may possibly be somewhat too enthusiastic regarding his subject. In one of his statistical tables he shows that among his patients 53 were sensitive to pollen, while only 49 per cent were sensitive to food. If one considers that the author lives in a part of the country where there is a very low pollen content of the air, one cannot help but feel that in the greater part of the U. S. A. pollen and other inhalants, as compared with food, are much more important in the causation of allergic symptoms, a fact which should have been stressed more emphatically.

THE DOCTOR AND HIS INVESTMENTS. By Merryle S. Rukeyser, B.Lit., M.A. Price $2.50. P. Blakiston's Son & Co., Inc., Publishers, 1012 Walnut St., Philadelphia, Pa.

"Men think in herds; they go mad in herds; they recover their senses slowly and one by one." So quotes this author, and, slowly and one by one, we are coming to, after the debauch of 1929, and in the process Mr. Rukeyser's book seems homely, wholesome and timely. One cannot refrain from wondering, though, if his message would have had an audience three years ago. If that were possible, amid the prevalent mad scramble for wealth, many a 1931 headache might have been obviated. "Too many go to the financial doctor only when they are ill," says Mr. Rukeyser. Here we stand at the bar of his book and plead "guilty." We wonder if our generation doesn't owe an apology to succeeding generations for our madness. Since we cannot retrace our steps, the doctor who has anything left to invest will be well advised to give this book a careful perusal. The author very properly devotes about one-half of his book to the subject of "Investment Policy," seeking to lead his reader away from haphazard investing to a scientific approach. Next he enters into the more practical consideration of the doctor's proper attitude toward stocks, bonds, real estate, life insurance, annuities, investment trusts, etc. Probably better still, he delves into his correspondence files and produces letters from doctors, spreads them out before us, drawing therefrom concrete examples of how his medical friends the country over have, in confidence, told him they were in the habit of proceeding. The author may fail in getting the vital message across on "Investment Policy" and his readers may be so satiated with stocks, bonds, etc., they will give no heed, but his discussion of concrete cases is not apt to fail of response. The style is simple, the plans suggested are attractive and workable and withal sane and conservative. If history fails to repeat, the fraternity may have little opportunity to practice what this man preaches, but since the world has optimism enough left to believe that good times will come again the doctor should set his "investment policy" house in order now, then when prosperity deigns to smile on us again he will be all set and can afford to rest content and let the rest of the world go mad.

THE COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION FOR 1930. Volume XXII. Edited by Mrs. Maud H. Mellish-Wilson, Richard M. Hewitt, B.A., M.A., M.D., and Mildred A. Felker, B.S. Octavo Volume of 1,125 pages with 234 illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, $13.00 net.

This is a difficult book to review adequately for the simple reason that it contains so much diversified reading matter, covering as it does the whole range of medicine and surgery. Regarding the quality of the papers little need be said. A volume from the Mayo Clinic is always hailed as being a scholarly contribution on what ever subject or subjects it happens to treat. In the present book we have forty-nine papers relating to the alimentary tract; twenty-one to the genito-urinary organs; six to the ductless glands; twelve to the blood and circulatory organs; eleven to the skin and syphilis; twenty-three to the head, trunk and extremities; eight to the chest; fourteen to the brain, spinal cord and nerves; nine papers descriptive of technic; while twenty-seven papers are devoted to miscellaneous subjects. These volumes, as they appear from year to year, may be looked upon as a series on "recent advances" that have taken place in medicine and surgery and allied subjects. The volume is well indexed both in regard to subjects and authors. Though it contains over eleven hundred pages, it is not by any means a bulky volume, which makes it a very convenient work for general reference.

RECENT ADVANCES IN MEDICINE, CLINICAL LABORATORY THERAPEUTIC by G. E. Beaumont, M.A., D.M. (Oxon.) F.R.C.P., D.P.H. (Lond.), and E. C. Dodds, M.V.O., M.D., Ph.D., B.Sc. Sixth Edition With 51 Illustrations. Philadelphia. P. Blakiston's Son & Co., Inc., 1931. Price $3.50.

We have had occasion to review from time to time the volumes which form this series of Recent Advances in Medicine and Surgery and allied specialties. It is two years since the last edition of Recent Advances in Medicine appeared and as a result the 1929 edition has been subject to thorough revision. The present volume contains articles on recent studies uremia, the graphic method of determining basal metabolism with the Benedict-Roth apparatus which has been described in detail. The treatment of pernicious anemia by stomach extract. A special section has been devoted to the Aschheim-Zondek test for the detection of early pregnancy. The subject of diabetes mellitus, and the relationship of acetone bodies to diabetic coma. The importance of lactic acid in the gastric con-

tents in cases of suspected carcinoma in view of the latest work done on the subject. Each chapter is supplemented by copious reference to the current medical literature in which the various subjects are first dealt with before finding their way into medical books. These series of recent advances serve as an important evaluation of work reported in current medical journals.

RECENT ADVANCES IN PULMONARY TUBERCULOSIS by L. S. T. Burrell, M.A., M.D. (Cantab.), F.R.C.P. (Loud.). Second edition with 32 plates and 17 text-figures. Philadelphia. P. Blakiston's Son & Co., Inc., 1931. Price $3.50.

This is the second edition of Recent Advances in Pulmonary Tuberculosis. As is well known, recent work on tuberculosis has been largely along surgical lines, and with this point of view the author has thoroughly revised and enlarged the chapter on thoracoplasty, extra-pleural pneumolysis and phrenic evulsion. He has also included modern views concerning salt-free and other diets together with the evaluation of vitamines. Six chapters, or one-half of the book, are concerned with the various methods and agents of treatment, while the author adds a chapter on prevention, one on diagnosis, one on prognosis as well as a chapter on X-ray diagnosis, which is well illustrated by half-tones. These illustrations deal for the most part with fairly pronounced typical cases. The author advances the opinion that the clinical and the X-ray examinations should be performed by different individuals, thus giving the patient the advantage of two different examinations and opinions. "The physician who becomes his own radiologist," says the author, "must lose the fineness of outlook and that power of summing up all the evidences which are so important." The important subject of light therapy is dealt with at length. In view of the universality of phototherapy, the indications and contra-indications as outlined in this chapter are of special importance.

MEDICAL JURISPRUDENCE. By Carl Scheffel, Ph.B., M.D., L.L.D. Published by P. Blakiston's Son and Company, Inc., Philadelphia, Pa., 1931.

This handy volume is divided into seven chapters. It is well indexed. In these days of constantly increasing malpractice and other suits being brought against physicians, it behooves us to know our rights and liabilities not only as citizens but as doctors. "Ignorance of the law is no excuse." This should be constantly in the mind as one goes about his daily practice. No one, general practitioner, surgeon or specialist should be without a working knowledge of medical jurisprudence. The introduction is excellent. In Chapter I the author deals with the Contractual Relationship of the Physician. Chapter II, How the Law of Agency Involves the Physician. Chapter III, Physician and Torts. The word "Tort" means legally "civil wrongs for which legal redress is available." Chapter IV, Witness and Evidence, most important to the physician about to testify. Chapter V, the Property Interests of Physicians. Here are answered such questions as, who owns the prescription, hospital reports on X-ray findings, group practice and narcotics? Chapter VI, Physicians and Criminal Responsibility. Chapter VII, rather unusual in a medical book, "Physicians as Lawmakers," the discussion a mooted question as we in Michigan know. The Wayne County Medical Society through the efforts of Dr. J. M. Robb, the retiring President, took the first step along this line when he held a very successful joint meeting of the Wayne County Bar Association and the Wayne County Medical Society. Cases illustrating the various legal questions involved are quoted. It is an excellent book on a subject of most timely interest.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1930. Cloth. Price, $1.00. Pp. 91. Chicago: American Medical Association, 1931.

This book is essentially a record of the negative actions of that distinguished body, the Council on Pharmacy and Chemistry of the American Medical Association; that is, it sets forth the findings concerning medicinal preparations which the Council has voted to be unacceptable for recognition and use by the medical profession. Many of the reports record outright rejection or the rescinding of previous acceptances; others report in a preliminary way on products which appear to have promise but are not yet sufficiently tested or controlled to be ready for general use by the profession.

NEW AND NON-OFFICIAL REMEDIES, 1931, containing descriptions of the articles standing accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1931. Cloth. Price, postpaid, $1.50. Pp. 481 + LVI. Chicago: American Medical Association, 1931.

This volume is the annual publication of the Council on Pharmacy and Chemistry of the American Medical Association giving the latest authentic information concerning those of the newer medicinal preparations found worthy of the consideration and use of the medical profession. Each year the Council scans the general articles under which the various preparations are classified and revises these to conform to the latest and best medical thought.

A glance at the preface shows that a number of preparations have been omitted because they conflict with the rules that govern acceptance, because their distributors did not present evidence to demonstrate their continued acceptability, or simply because the manufacturers have taken them off the market. Important revisions have been made in a number of the general articles and in the descriptions of various preparations. Among the new preparations that have been found by the Council during the past year to be eligible for admission to the book are: Amytal and Pulvules Sodium Amytal, 3 grains, barbituric acid derivatives for use preliminary to surgical anesthesia; Thio-Bismol, quinine bismuth iodide, sodium potassium bismuthyl tartrate, and Tartro-Quiniobine, bismuth compounds for use in the treatment of syphilis; Scillaren and Scillaren-B, preparations containing the squill glucosides; two new cod liver oil concentrates; Synephrine, a new vasoconstrictor, and synthetic thyroxine.

New and Non-official Remedies should be in the hands of all who prescribe drugs. The book contains information about the newer materia medica which cannot be found in any other publication.

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CONTENTS

Certain Principles in the Treatment of Obstructive Jaundice. Waltman Walters, M.D. 739
Granulocytopenia, Agranulocytic Angina and Related Blood Dyscrasias. Chester E. Stellhorn, A.B., M.D., and Arthur L. Amolsch, A.B., M.D. 743
Newer Phases of Childhood Tuberculosis. Harry C. Metzger, M.D. 760
The Incidence of Heart Disease in Rheumatic Fever. Walter J. Wilson, M.D. 765
Carcinoma of the Larynx. A. C. Furstenberg, M.D. 770
Anesthesia in Head and Neck Surgery: Various Types and Methods. Reuben Maurits, M.D. 776
Significance of Cardiac Pain. Hugo A. Freund, M.D., and Warren B. Cooksey, M.D. 781
The Large-Holed Head Mirror. Emil Amberg, M.D. 784
Famous Men in Medical History: Philip Syng Physick—"Father of American Surgery." Charles Bell 786
Michigan's Department of Health. C. C. Slemons, M.D., D.P.H. 790
Of General Medical and Surgical Interest 791
Editorial:
Do the Sires Live in the Sons 793
Doctors Will Follow 793
Anti-Vivisection 793
President Dr. Carl F. Moll 794
Ten Dollar Obstetrics 794
Medical History of Michigan 795
One Effect of the State Medicine Idea 796
Alfred W. Hornbogen, M.D. 796
Otto Lee Ricker, M.D. 796
The Oldest Book in the World 797
Infantile Paralysis 799
Deaths 800
General News and Announcements 800
Communications 801
Society Activity 803
County Societies 805
The Doctor's Library 807

CERTAIN PRINCIPLES IN THE TREATMENT OF OBSTRUCTIVE JAUNDICE*

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Cases in which there are obstructive lesions anywhere are exceedingly interesting. Particularly is this true of obstruction of the biliary and urinary tracts, for with the obstruction the constituents of bile and urine are absorbed into the circulation and later into the tissues; impairment in function of the liver or kidneys is next in order, and later, injury to the parenchyma of the liver and kidneys occurs. As a result of accumulation of abnormal products in the blood serum and tissues of the body, resulting from obstruction and the effects of the disintegration of hepatic and renal cells, the patients become seriously ill, and measures directed toward their recovery must be instituted. These should consist not only of removal of the obstruction but of attempts to compensate for as many as possible of the disturbed physiologic processes which have taken place.

Obstructions of the biliary tract are of two types: those due to lesions within the liver and those due to lesions obstructing the extrahepatic biliary passages. All physi-

*The Mayo Lecture in Surgery delivered at the University of Michigan Medical School, June 18, 1931.

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cians are familiar with cases of catarrhal jaundice and no doubt all have seen some cases of acute yellow atrophy of the liver. Probably the most common of the intrahepatic obstructions of the biliary tract are those due to hepatic cirrhosis. The most common causes of extrahepatic biliary obstruction are gallstones in the common or hepatic bile ducts; strictures of the ducts, usually secondary to operative injuries to the ducts, and tumors of the head of the pancreas, usually carcinoma, obstructing the pancreatic portion of the common bile duct.

Whereas in intrahepatic obstruction, the onset of painless jaundice is the characteristic feature, in obstructing lesions of the common and hepatic bile ducts intermittent pain is a prominent and characteristic feature. In this respect, I think it is worth while to direct attention to the fact that pain associated with obstructive jaundice is dependent on the degree of obstruction, and the rapidity with which it takes place, whether it is due to stones, strictures, or tumor of the pancreas. Hence it should be emphasized that gallstones may obstruct the common or hepatic ducts without producing pain, and, by the same token, pancreatic obstruction of the common bile duct may be occasionally accompanied by biliary colic.

THE EFFECT OF OBSTRUCTION OF THE COMMON BILE DUCT WITH ASSOCIATED JAUNDICE

With an obstructing lesion of the common or hepatic bile duct, bile is retained within the biliary tract and is reabsorbed into the blood serum. Cholemia is frequently associated in the minds of many, with a group of symptoms indicative of as grave a condition as that with which uremia is associated when it relates to renal insufficiency. From the surgical standpoint, one of the most important effects of the presence of bile pigment and bile salts in the blood serum is their tendency to prolong the coagulation time of the blood. For this reason, accurate studies of the coagulation time of the blood are of primary importance in the determination of the jaundiced patient's tendency to bleed. Should the coagulation time of the blood be lengthened, measures directed to assist in shortening it are necessary.

The intravenous injection of calcium chloride, of transfusions of blood, or the intravenous injection of hypertonic solutions of glucose, all have served admirably to prevent postoperative bleeding, and have made it possible to extend the frontier of operability to include cases in which, years ago operation would have been denied for fear of fatal termination due to hemorrhage.

An interesting point about biliary obstruction is that whereas in some cases it may persist for weeks and months without much alteration of the coagulability of the blood or without noticeable effect on the fundamental physiologic process of parenchymatous tissue, in other cases similar obstruction may not only markedly prolong the coagulation time of the blood, but showing further evidences of disturbed physiologic processes of the blood vessels, it may cause the appearance of purpuric spots on the skin or even may give rise to evidence of hepatic or renal insufficiency. Why this difference in reaction occurs is not certain.

The early effect of obstruction of the biliary tract on the liver is the production of fatty infiltration. As the obstruction persists hydrohepatosis may occur. The dilatation of hydrohepatosis might be likened to that which occurs in the renal pelves and calices when obstruction to the ureters occurs. It is accurately illustrated in celloidin and corrosion specimens of obstructed biliary tracts made by Counseller and McIndoe. The more marked the degree of infection in the walls of the intrahepatic biliary ducts, the less the degree of such dilatation.

THE VALUE OF THE CLINICAL HISTORY AND EXAMINATION

It is almost a surgical axiom that the appearance of the patient and his feeling of well-being or of illness serve admirably as indexes of his general condition. In the history of the case, the character and duration of the jaundice, whether its appearance was preceded or accompanied by colic, and whether chills and fever had been associated with it, are extremely important evidences in favor of one or another type of obstructing lesion. The presence of a palpable gallbladder, if a patient has had painless, afebrile, jaundice, usually means that the biliary obstruction has been due to a lesion in the head of the pancreas, for had it been the result of infection in the gallbladder, or of stone in the common duct, the infection of the walls of the extrabiliary passages,

like that of the walls of the intrabiliary passages, would have limited the distensibility of the gallbladder. The presence of subcutaneous hemorrhages or purpuric spots usually means prolonged coagulation time and a tendency on the part of the patient to bleed abnormally. The nodular liver of metastatic carcinoma frequently will reveal itself to the palpating hand, and the presence of fluid in the abdomen, when associated with painless jaundice and unchanged color of the stools, leads to the conclusion that the obstruction is intrahepatic.

TESTS OF HEPATIC FUNCTION

Rowntree, Snell, Greene and I, in a study of various tests of hepatic function, both clinically and experimentally, arrived at the conclusion that the degree of hepatic injury in biliary obstruction cannot be measured by any functional test. The tests with phenoltetrachlorphthalein or phenoltetrabromphthalein are obscured by the presence of jaundice and by biliary obstruction, and cannot be relied on. The determination, however, of the curve of the bile pigments in the blood serum is of great significance. Whether one chooses to use the method of van den Bergh or the icteric index of Meulengrocht is probably a matter of personal preference. Successive determinations of the amount of bile pigment in the blood serum are of value. Whereas operation is undertaken with increased risk when the concentration of bile pigment in the serum is increased, the reverse is true when it is decreased. In the cases in which the concentration of bile pigment in the blood serum is decreasing, therefore, it is often wiser to let it reach its lowest level before instituting surgical treatment.

This probably is the proper place to direct attention to the fact that all laboratory procedures in the study of cases of obstructive jaundice serve their best purpose in establishing or confirming a clinical diagnosis, in warning of operative or postoperative complications which may be met or avoided by appropriate measures, and in indicating the risk of operation.

THE NECESSITY OF COMPLETE RELIEF OF BILIARY OBSTRUCTION

If the patient is to recover from an operation for obstructive jaundice, complete removal of the obstruction must be accomplished. This means that if stricture of the duct is present, one of several operations must be performed. Accurate anastomosis may be made between the ends of the duct after the stricture has been excised, or between the upper end of the duct, above the stricture, and the duodenum. If the stricture is too extensive to permit of such anastomosis, then an external biliary fistula must be established, later to be coned out and transplanted into the stomach or duodenum. If the obstruction is the result of a tumor in the head of the pancreas, anastomosis of the distended gallbladder to the stomach or duodenum should be made, and the stoma should be of sufficiently large size to prevent obstruction should edema and swelling occur at the site of the union. If a stone in the common or hepatic duct has been the cause of obstructive jaundice, it should be removed. If several stones are present, all should be removed. Failure of recovery in most instances, following operations on the biliary passages, has been proved at postmortem examination to have been the result of failure adequately to relieve the obstruction.

COMPLICATIONS FOLLOWING OPERATIONS

Clinical problems frequently arise in the course of study and treatment of cases of obstructive jaundice, the solutions of which in some instances may depend on detailed study of a larger number of similar cases, or, in others, on taking the problems into the experimental laboratory. Reference has been made to the method of joining that portion of a common or hepatic duct, above a stricture, to an opening made in the duodenum to relieve the biliary obstruction. The possibility of leakage of bile or of duodenal content from the line of anastomosis is apparent. In one case in which leakage did occur, and duodenal fistula resulted, study of the patient's blood revealed increase in the concentration of urea and decrease in that of chlorides. Explanation of this was obtained in the experimental laboratory by producing duodenal fistulas in animals. Here it was found that the increase in urea was a phenomenon of dehydration, the result of toxemia due to loss of fluid through the duodenal fistula, and that the decrease in blood chlorides was due principally to the loss of chlorides from the gastric secretion. Replacement of the fluids lost through the duodenal fistula served to overcome the toxemia, and especially was this true when physiologic sodium chloride solution was used, which also tended to re-

place the blood chlorides. The clinical application of solution of this problem is apparent, for by overcoming the toxemia from dehydration the fistula was allowed to heal spontaneously, without the danger and risk and difficulty of a second operation directed to closure of the fistulous opening.

In another case, leakage of bile sufficiently rotated the liver to interfere with circulation in the inferior vena cava and this resulted in grave symptoms of shock. Following the opening of the incision done in the patient's room, and the gush of bile from above the surface of the liver, marked improvement within a short time was striking.

Bollman and I, working on the problem presented by this case, found that by depressing the liver of an animal with a rubber glove which could be inflated, exactly similar changes in blood pressure, pulse, and respiratory rate occurred, and when the liver was allowed to return to its normal position, these symptoms disappeared as suddenly as they had disappeared in the case in which we effected egress of accumulated bile. Then later, when, in the same animals, instead of causing rotation of the liver, the circulation of the inferior vena cava was interfered with, with the same results, evidence seemed to point to the fact that the displacement and particularly the rotation of the liver, had by its interference with the circulation of the inferior vena cava, been the cause of our patient's postoperative complications. From the surgical standpoint, it is interesting that the patient with the duodenal fistula and the patient who had accumulation of bile displacing the liver, have been well for periods of five and four years, respectively, since operation.

It has been a common clinical impression that following operations on the common and hepatic bile ducts, if bile in normal amounts and of normal color was excreted each day, and if the patient's general condition appeared to be approximately normal, the liver was functioning satisfactorily. Similarly, it has been noted by some that if patients were not doing well following operation, there was paling and thinning of the bile. These clinical observations led us to describe, in 1922, what we termed "the clinical picture of hepatic insufficiency." Mention of this is made because this clinical observation led later to study of the constituents of bile which drained following operations on three groups of patients whose biliary obstructions were due respectively to stones, strictures, and tumors of the head of the pancreas.

The quantity of bile excreted, and the concentration of bile pigments, bile salts, chlorides, and urea in the bile, in each group differed markedly from those in every other group. Fewer abnormal changes occurred in the bile, if obstruction was intermittent and of short duration, in those cases in which the obstruction was due to stones in the common duct, and in which, therefore, little injury to the hepatic cells had occurred. Among the patients with carcinoma in the head of the pancreas, with continuously increasing obstruction of the common bile duct, was the greatest change in output and concentration of bile. We speculated on the cause and were led to believe that the tremendous increase in the amount of fluid discharged through the biliary passages, if there was obstruction of the pancreatic portion of the common bile duct, was due to increase in the surface area of the intrahepatic biliary passages previously mentioned.

These observations may be the explanation for the fact that in cases in which an external biliary fistula is made or cholecystostomy is performed for obstruction of the pancreatic portion of the common bile duct, within a short time the operation is followed by the development of dehydration toxemia due to loss of an abnormal amount of fluid and chlorides.

SUMMARY

I have attempted to call attention to a few of the interesting and important problems in the treatment of patients with obstructive jaundice. Special attention has been directed to the value of a carefully taken clinical history and to the advantages of general examination in arriving at a correct diagnosis, even of such complicated lesions as those which cause biliary obstructions and in which the accumulation in the blood of bile and its constituents are complicating factors.

In cases of obstructive jaundice, because of the indefiniteness of hepatic function and its determination, problems frequently will arise, which may be solved by studies of larger numbers of such cases. Still other problems may need to be taken to the experimental laboratory for solution.

Mention has been made of the opportunities for clinical investigation in this field only. Similar opportunities are present in all types of disease.

GRANULOCYTOPENIA, AGRANULOCYTIC ANGINA AND RELATED BLOOD DYSCRASIAS*

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This paper is a clinico-pathological discussion of a group of cases which showed marked diminution or absence of the granulocytic cells of the circulating blood. Most of these cases had a marked leukopenia and some or all of the clinical features described by Schultz in 1922[1] as the syndrome of agranulocytic angina. Schultz emphasized the following features: a sudden onset, usually in elderly women, with high fever and malaise, development of an ulcero-necrotic diphtheritic gangrenous process in the throat, frequently a slight jaundice, low total white cell and granulocytic (polymorphonuclear) cell counts, normal red blood cell and blood platelet counts, and a fatal termination.

Since 1922 a voluminous literature has appeared on this subject, some corroborative, but most of it controversial in character. Similar cases were described, some of which showed anemia and hemorrhagic diathesis or hemorrhagic diathesis alone; some had a gradual onset; others occurred in males, young women and children; some recovered, a number have had several attacks of the disease, with or without fatal termination. Other cases showed ulceration elsewhere than in the throat—in the esophagus, trachea, stomach, intestines, rectum, vagina and skin; some had no ulceration. Cases were reported with leukopenia, but normal percentages of polymorphonuclears; others had a leukocytosis or normal total white cell counts, but with low percentage of polymorphonuclears. Finally, it has been noted that similar blood or clinical pictures occurred, at times, in a variety of other conditions—benzol, arsenic and arsphenamine poisoning, following prolonged X-ray or radium irradiations, in acute and chronic aplastic anemias, in acute leukemia and aleukemic leukemia, in purpura hemorrhagica, in infection with B. melitensis, sepsis, sprue, infectious mononucleosis, catarrhal jaundice, influenza, sub-acute bacterial endocarditis, typhoid fever and miliary tuberculosis; in Hodgkin's disease and lymphoblastoma.

The clinical and pathological relation of some of these cases to agranulocytic angina is rather slight. Some show merely a leukopenia and granulocytopenia, others exhibit many of the clinical features described by Schultz. Where there is a definite picture of some other disease, such as subacute bacterial endocarditis, *plus* the features of agranulocytic angina, the tendency has been to ascribe an etiological rôle to the former. This is probable, but not proved.

Cases resembling classical agranulocytic angina in some, but not in all respects, occupy a debatable position. Many writers regard them as "variants," but others, including Schultz, insist that they are not true agranulocytic angina. All of this has led to considerable confusion in the literature and still greater confusion in the minds of practicing physicians. One physician has said, "Some men are diagnosing every case of sore throat with leukopenia as agranulocytic angina." Obviously, such a condition needs correction.

Rosenthal[2] has recently attempted a classification of the diseases which are associated with a leukopenia. He has dealt with these on the broad basis of extrinsic and intrinsic factors which regulate or influence the myeloid activity of the hematopoietic organs. Those factors which he enumerates are, the vegetative nervous system, infection, the acid base equilibrium of the body, endocrines and constitution. Doubtless other factors will be added to this list as our knowledge increases. Certain toxic agents, arsenic, and bismuth, arsphenamine, benzol, X-rays and radium might be considered as extrinsic factors which influence myeloid activity. Rosenthal's classification is as follows:

I. Fatal Agranulocytosis.
   a. Without anemia.
   b. With anemia.
   c. Malignant leukopenia.

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II. Benign Agranulocytosis (recovered cases).

III. Aplastic Myeloid Disorders.
   a. Acute aplastic anemia.
   b. Chronic aplastic anemia.
   c. Panmyelophthesis.
   d. Purpura hemorrhagica (with leukopenia).

IV. Leukopenic Leukemia.

V. Toxic Leukopenia or Aplastic Myeloid Disorders as a result of poisoning with Benzol, Radium and X-rays, Arsenic and Arsphenamine.

VI. Miscellaneous Cases (Nutritional Anemia, Chlorotic Anemia, Endocrine Disorders, Hepatitis, Obscure Infections, Idiopathic Leukopenias.

There is considerable to commend in this attempt at classification and much to condemn. The arbitrary limitation of the classification to those cases which are associated with a marked leukopenia, excludes a number of related diseases. A division of the cases into fatal agranulocytosis and benign agranulocytosis does not seem logical or warranted. Both fatal typhoid fever and typhoid fever with recovery are genuine typhoid fever. To be sure, all of Schultz's original five cases died, but likewise they were all women. With equal propriety one might insist on a subdivision of the cases into male agranulocytosis and female agranulocytosis. The term "agranucytosis" is somewhat objectionable. Literally, it means "without increase of granulocytic cells" and every normal person has agranulocytosis in this, its true sense. Granulocytopenia," meaning "a decrease in the number of granulocytic cells," is a better term.

Rosenthal further separates fatal agranulocytosis into three divisions: (a) without anemia, (b) with anemia, and (c) malignant leukopenia. The first of these is the syndrome of agranulocytic angina as described by Schultz. The second group differs from true Schultz agranulocytic angina only in the fact that there is an anemia and in some cases an additional thrombocytopenia. Frequently a definite cause can be ascribed to the accompanying anemia, such as menorrhagia, sepsis with suppurative embolic foci, etc., or it may exist prior to the onset. "Schultz did not accept such cases at first as agranulocytosis but later modified his views."[2,3] The authors feel that there is no real difference between these two groups of cases and that the anemia is more or less a complication. The third group of fatal agranulocytosis Rosenthal calls malignant neutropenia. These are cases of overwhelming sepsis in which there is a secondary anemia and marked leukopenia, but with a normal percentage of granulocytic cells and normal platelet counts. The clinical picture resembled that of agranulocytic angina, but with no ulceration of the mucous membranes. The authors reported a case[4] (No. 32 of this series), having fever, angina without ulceration, prostration, terminal broncho-pneumonia and a fatal termination. This case had but two white blood cell counts, both taken on the day of death, the one in the morning was 16,750 with no polymorphonuclears, that of the afternoon was 9,100 with no polymorphonuclears. There was a moderate anemia and a platelet count of 10,000. An autopsy showed little with the exception of a persistent thymus, terminal broncho-pneumonia and an aplastic bone marrow. There were no enlarged lymph nodes nor leukemic infiltrations of the tissues. Two other somewhat similar cases are included in this report (Nos. 34 and 35). The authors believe that these cases are closely related to those described by Schultz and suggested the term "Atypical Primary Granulocytopenia" for them.

It must be constantly borne in mind, however, that the human blood picture may change very rapidly. The authors have noted cases in which the total white cell count and the percentage of polymorphonuclears varied markedly within a few hours. Blood counts should be taken repeatedly; at least once a day—preferably at the same time, and more frequently when indicated. Furthermore, it is extremely difficult to obtain an accurate differential count on blood in which there are few white cells. *Diagnosis cannot be made solely on the blood picture.* Clinical findings, history and physical examination and the course of the illness; chemical studies of the blood; X-rays; biopsies when indicated and autopsy when possible, are also necessary.

Rosenthal's group of aplastic myeloid disorders seems to be a logical assembly, but includes several conditions which are rarely seen, and excludes a large group of aplastic anemias of which he has made a separate division, i. e., Group V, toxic leukopenia

or asplastic myeloid disorders. The authors can see no logical reason for this.

Leukopenic leukemia scarcely deserves a separate classification; most hematologists do not recognize it as a clinical entity, but rather regard it as a stage of myelocytic or lymphocytic leukemia. Furthermore, other leukemias sometimes exhibit a concomitant clinical picture of agranulocytic angina with high temperature, prostration and necrotic ulceration of the throat and other mucous surfaces (see Case No. 40). This group might well be labeled leukemia and include acute and chronic myelocytic leukemia and acute and chronic lymphatic leukemia. Rosenthal cites certain cases of aleukemic leukemia which at autopsy showed sclerotic or fatty changes in the hematopoietic organs, without the typical lesions of leukemia in the bone marrow or elsewhere. The authors have never seen cases of this sort but doubtless they occur. Clinically, they appear to be true leukemias in an aleukemic stage; the pathology is that of a degenerative aplastic myeloid disorder. They would provide interesting argument at any clinicopathological conference. More of these cases should be studied before they can be definitely classified. They may shed light upon the disputed etiology of the leukemias.

Rosenthal's fifth group is that of toxic leukopenia due to poisoning with benzol, radium and X-ray, arsenic and arsphenamine. This group will probably be extended from time to time. One of the cases of the present series (No. 38) occurred in a patient having hypertrophic arthritis of the left knee and both hip joints. Before the onset of the granulocytopenia she received vigorous treatment for her arthritis. The drug used was mono-iodo-cinchophen (Farrastan). It was given orally for several weeks in dosages somewhat in excess of those recommended by the manufacturers of the drug. She developed a typical clinical and blood picture of agranulocytic angina, but improved and eventually recovered when the drug was withheld. She has been well ever since. The authors are of the opinion that her response to withdrawal of the drug and her ultimate complete recovery argue somewhat for a drug poisoning as a basis of the illness. The drug Farrastan is being used extensively and, should the authors' opinion be well founded, other, similar cases will likely be observed.

A. Meyer[5] recently noted agranulocytosis occurring in cases of neuro-syphilis following a therapeutic inoculation with malaria. "In the first patient, who finally recovered, the causal relation between malaria and agranulocytosis is probable, but not absolutely sure. The second patient died and in this case there was no doubt that the malaria inoculation had caused agranulocytosis. In the literature on natural malaria the author did not find remarks about agranulocytosis as a complication of malaria. He also mentions that agranulocytosis was not observed in other patients who had been inoculated with the same malarial stock. Meyer asserts that he had noted agranulocytosis in several syphilitic patients. It developed mainly after treatment with arsenic or bismuth."

The etiology of the granulocytopenia, in these cases, is not clear; but recent arsenic and bismuth poisoning can be excluded. The patients had both lues and malaria; neither one, alone, has been known to produce the blood and/or clinical picture of agranulocytic angina. The favorable results of malarial treatment in neurosyphilis are commonly ascribed to the thermal changes induced by the treatment. The role of a thermal etiological agent is suggested but not proved. But leukopenia and granulocytopenia are never seen in other conditions in which there are marked thermal changes, as in brass poisoning or heat prostration. It seems most likely that the etiological agency, in these cases, is the overwhelming infection of both syphilis and malaria.

Other toxic substances may also cause leukopenia or granulocytopenia.[6,7]

Finally, Rosenthal has a group of miscellaneous cases which showed some degree of leukopenia with or without the clinical features of agranulocytic angina. The majority of these cases have few of the clinical features which might cause confusion with agranulocytic angina but they are doubtless related conditions.

Sweeney[8] has recently suggested a simple classification of cases showing polymorphonuclear leukopenia on the basis of their etiology or apparent etiology:

1. Infectious polymorphonuclear leukopenia.

2. Toxic or chemical polymorphonuclear leukopenia.

3. Idiopathic polymorphonuclear leukopenia.

This excellent classification suffers only in being too inadequate and incomplete to cover all known related conditions.

AUTHORS' CLASSIFICATION

The authors submit the following classification of cases of granulocytopenia:

I. *Typical Primary Granulocytopenia* (without anemia, with anemia and/or thrombocytopenia, with multiple attacks, recovered cases).

II. *Atypical Primary Granulocytopenia* (malignant leukopenia of Rosenthal, benign leukopenia, granulocytopenia without leukopenia).

III. *Secondary and Symptomatic Granulocytopenia*
- A. Aplastic Myeloid Disorders.
  - 1. Acute aplastic anemia.
    - a. Primary (relatively rare).
    - b. Secondary (as a result of poisoning with arsenic, arsphenamine, benzol, bismuth, trinitrotoluol, thorium X, radium and its salts, gold salts, monoiodo-cinchophen (Farrastan), X-rays. As a result of overwhelming infections, osteomyelitis, sepsis, miliary tuberculosis, malarial treatment of C. N. S. syphilis, etc.).
  - 2. Chronic aplastic anemia.
  - 3. Panmyelophthisis.
  - 4. Purpura hemorrhagica (with leukopenia).
- B. Leukemias.
  - 1. Acute and chronic myelocytic leukemia.
  - 2. Acute and chronic lymphocytic leukemia.
  - 3. Aleukemic leukemia.
- C. Miscellaneous.

The first and second groups are composed of cases having no obvious etiology. It is true that some of these have concomitant infection such as acute upper respiratory infections, peritonsillary abscess, cervical abscess, and bacteremia. However, most of these infections appear to be too minor in character to cause the profound changes which occur in the hematopoietic tissues. Many of these infections are definitely preceded by the appearance of the leukopenia and granulocytopenia. As to the fact that they sometimes preceded the onset of the blood picture, Sweeney's observation[8] that there may be a qualitative change in the leukocytes before there is a quantitative change, seems apropos. The polymorphonuclear leukocytes constitute the first line of defense to infections. When the leukocytes are depleted in numbers or impaired in function the general resistance of the body is greatly reduced to pathogenic organisms which, like the poor, are always with us. The authors believe that these cases are primary in the sense that no obvious, adequate bacterial or other etiology has been demonstrated.

The first group of cases showed blood and clinical findings which are quite like those which Schultz described as agranulocytic angina. Features which the authors have felt to be non-essential to this picture are age; sex; type of onset; presence or absence of anemia, thrombocytopenia and throat ulceration; and the result—in death or recovery.

The third group of cases showed the picture of agranulocytic angina in whole or in part, during the course of some other clinical disease entity which might be regarded as the causative agent.

That there may be little or no pathological difference between certain selected cases from each of the three groups, is freely admitted by the authors. The classification is intended primarily for the use of clinicians and the authors are of the opinion that it is simple, workable and in keeping with present clinical and pathological knowledge.

CASE REPORTS*

All of the cases reported in this paper have a local flavor. Nearly all of the patients are, or were, residents of Detroit and its environs. All were seen by local physicians during or following their illness. This wealth of material, largely from a single locality, was adaptable to certain types of study which ordinarily is not possible. An attempt was made, so far as possible, to include all of the local cases of agranulo-

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cytic angina. Some cases, undoubtedly, were missed; a few had to be excluded because of incomplete or unconvincing records. A criticism of office and hospital records is not intended as a part of this paper, but there was considerable variation in the quality and completeness of the clinical and laboratory studies which were made upon these cases.

Fourteen of these cases have been previously reported,[4, 9, 10, 11, 12, 13] some of them in rather obscure and inaccessible publications so that their inclusion in this paper seems justified.

The single leukocyte and differential counts in the tables are the lowest counts noted on each patient. Where several counts appear for a single case, each count is the lowest obtained during a separate and more or less definite attack of granulocytopenia. The hemoglobin percentages and red blood cell counts were taken at the same, or approximately the same, time as the leukocyte counts. Platelet counts, unfortunately, were made on only a few of the cases so that no column has been provided for them in the tables.

It is obviously impossible to give an accurate idea of the type and range of fever during the course of an illness, by a single figure. The temperature stated for each case is a mean or average during the acute phase of the granulocytopenia.

I. TYPICAL PRIMARY GRANULOCYTOPENIA

The authors have nothing new to present as an explanation of the etiology of primary granulocytopenia. Certain well known facts have a bearing on this matter. It may be assumed, in cases of primary granulocytopenia, that there is an intrinsic constitutional hypoplasia or a destruction by a toxin of unknown origin, of the myeloid tissues. Few leukocytes are manufactured and those circulating in the blood stream soon pass their normal span of life and die. The result is a leukopenia. Reduction in the number of polymorphonuclear cells is more rapid than the reduction of lymphocytes for some unknown reason. Perhaps the toxin has a selective action upon the parent cells of the granulocytic cells or their parent tissues are more hypoplastic than the lymphoblastic tissues. In either event a marked granulocytopenia occurs.

As a result the defense mechanism of the body against infection is markedly impaired. Polymorphonuclear leukocytes, the most active phagocytizing tissues of the body, are nearly or completely absent. Certain other defense systems are also damaged or depleted. Leukocytes contain substances which are strongly bactericidal, called endolysins. These substances act independent of the blood serum and resemble the enzymes in many respects.[14] These endolysins probably act on both free and phagocytized bacteria. Lymphocytes and macrophages appear to be devoid of this endolysin.[15] It has been shown experimentally[7] that rabbits having severe leukopenia apparently have no antibacterial bodies present and that bacteria grow in their tissues in enormous numbers. When the leukocyte count of rabbits is less than 1,000 the animals cannot produce pus in response to inflammation.

In the human body the result of the leukopenia and granulocytopenia is infection. Pathogenic bacteria, normally present on the various mucous surfaces, grow luxuriantly, invade the tissues causing necrosis and ulceration, enter the blood stream causing sepsis, cause severe toxemia, high fever, prostration and frequently death.

Thirty-one cases are included in Table I. There were 21 females (68 per cent) and 10 males (32 per cent). The average age was 42.5 years. Females averaged about 4 years older than males.

In 19 instances the onset was gradual, in 6 it was fairly sudden, in 11 it was sudden. The average total duration of illness was about 13 days, the average duration of acute illness was about 7.5 days. These figures are only approximate and do not include the long prodromal stages, which were noted in a few cases, nor the protracted periods of convalescence of the recovered cases.

All of these patients had definitely elevated temperatures. Several showed a septic swing of the temperature curve during each day of their acute illness, but this was not observed as frequently as was a sustained high fever.

All of the cases showed a marked leukopenia and granulocytopenia. The average of the lowest recorded total white cell counts was about 1,100 cells per cubic millimeter. The average percentage of polymorphonuclear cells was about 4.7. Eleven of the cases had hemoglobin percentages less than 70; on six of the cases the hemoglobin percentage and red blood cell counts were not

TABLE I. TYPICAL PRIMARY GRANULOCYTOPENIA

Case	Sex	Age	Type of Onset	Duration in Days		Temperature	Leukocytes	Polymorphonuclear	Lymphocytes	Mononuclears	Myelocytes	Wassermann	Hemoglobin	R.B.C. in Mill.	Blood cultures	Location of Necrosis	T. Pneumonia	Death or Recovery	Autopsy
				Total	Acute														
1	F	36	Gradual	26	5	104°	300	0	100			++++	50	3.14	Not Done	Pharynx Vagina	+	D	—
2	F	66	Gradual	?	6	104°	500	0	100			—	70	3.49	Not Done	Pharynx Stomach Small and large intestines Rectum Vagina	—	D	+
				16	4	103°	1,100	8	82	10			85	4.70					
				?	19		800	2	70	26	4		65	3.78					
3	F	33	Gradual	?	6		1,550	21	79			—	100	5.04	Not Done	Angina, but no necrosis	—	R	—
4	M	55	Gradual	7	4	102°	1,800	0	62	38		—	70	3.23	Not Done	Pharynx	—	D	+
5	F	24	Gradual	21	11	103.4°	600	0	100				86	4.45	No Growth	Pharynx ?Intestines	—	R	—
6	M	21	Sudden	7	7	103.6°	560	0	100				60	2.36	No Growth	Pharynx Tongue Intestines	+	D	+
7	M	35	Gradual	16	5	104°	1,200	0	100				74	4.26	No Growth	Pharynx	—	D	—
8	F	54	Sudden	4	4	102°	180	0	100						Pneumococci	Pharynx Intestines Vagina	—	D	+
9	F	45	Sudden	8	8	105°	250	2	98				45	2.14	Strep. hem. Strep. vir.	Pharynx	+	D	+
10	M	42	Gradual	20	5	103.4°	250	0	60	40			100	5.00	Not Done	Gums	+	D	—
				?	6	101.6°	1,600	0	100								?		
11	F	44	Gradual	?	3	100°	950	0	88	12		—			No Growth	Pharynx None	—	R	—
12	M	57	Gradual	?	5	103°	1,400	0	100				90	4.40	Not Done	Angina, but no necrosis	—	D	—
13	F	67	Fairly Sudden	11	9	104°	450	1	99				87	3.18	Not Done	Pharynx Cheek	+	D	—
14	F	57	Fairly Sudden	9	6	104°	720	3	97			—		4.48	Not Done	Soft palate	+	D	—
15	M	56	Gradual	?	7	105°	990	19	71.5	7	1.5		85	4.39	Not Done	Angina but no necrosis	—	R	—
			Gradual	11	5	101°	3,600	4	72	24			80	3.88	Not Done	No necrosis	—		
16	F	40	Sudden	5	5	101°	800	0	95	5		—			Not Done	Skin over sternum	?	D	—

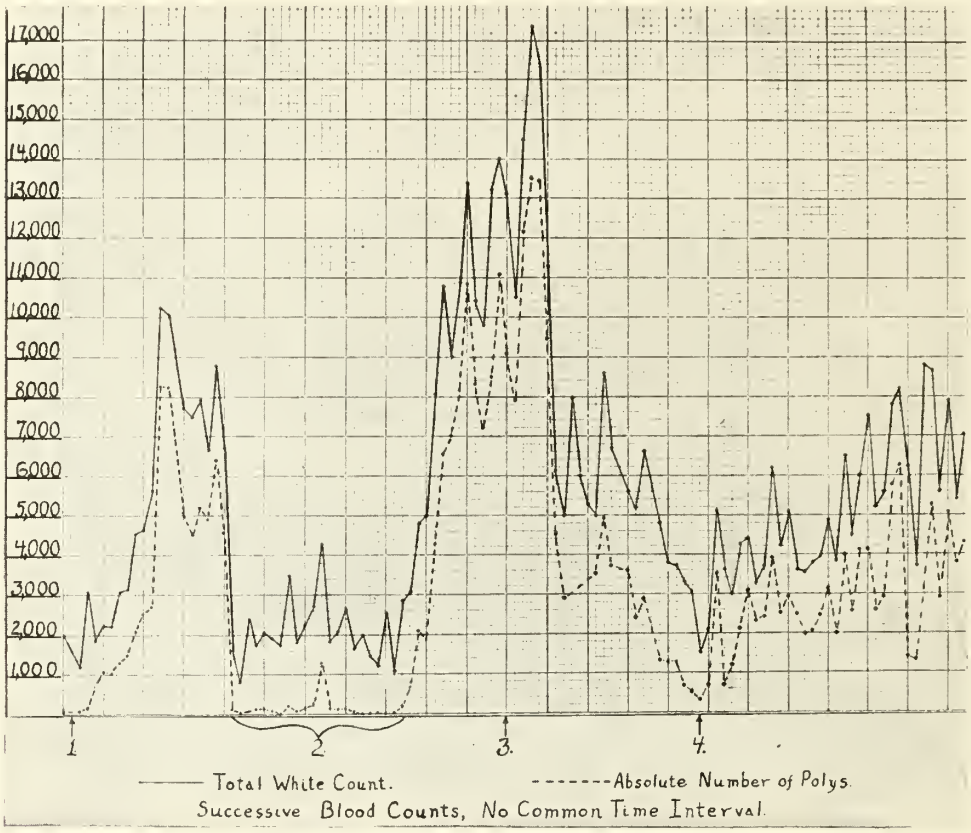
17	F	48	Fairly Sudden	13	8	103.5°	860	0	98	2			80	4.04	Not Done	Pharynx Palate Naso-pharynx	+	D	—
			Gradual	?	7	99°	2,440	16	84				82	3.73		Peri-tonsillar abscess	—		
18	F	45	Sudden	9	7	101°	675	0	100			—	65	3.55	Not Done	Soft Palate	+	D	+
19	M	30	Fairly Sudden	10	8	105°	760	0	92	8			90	4.62	Not Done	Pharynx	—	D	—
20	F	54	Sudden	3	3	102.5°	500	0	100						Not Done	Soft Palate Gums	+	D	—
21	M	22	Gradual	?	App. 30	102.5°	1,640	4	96			—	60	3.15	Not Done	Pharynx Tonsil Soft Palate	—	R	—
22	F	34	Sudden	30	20	103°	3,300	8	84	8		—	50	3.66	Not Done	Pharynx Tonsil Labia Majora	—	R	—
				?	3	102°	2,850	7	90	3			75	3.84	No Growth Staph. Aureus.	Base of Tongue	—		
23	M	58	Gradual	?	7	103°	1,500	6	56	35	3		60	3.44		No Necrosis	—	R	—
			Gradual	21	9	103°	800	2	96	2			70	3.81	No Growth	Soft Palate Base of Tongue	—		
24	F	39	Sudden	9	9	104°	950	0	77	23			60	3.69	Not Done	Soft Palate Base of Tongue Oral Margin	—	D	+
25	M	21	Gradual	34	9	104°	2,900	2	90	5	3	—	36	1.37	Not Done	Pharynx Naso-pharynx Tonsil Soft Palate	+	D	—
26	F	42	Sudden	8	8	103°	200	0	10	90		—	82		Gram and streptococci Diphtheroids	Peri-tonsillar Abscess	+	D	—
27	F	44	Fairly Sudden	11	5	104.5°	1,600	3	96	1			60	2.47	Not Done	Pharynx Skin of Body	+	D	+
28	F	45	Fairly Sudden	6	2	102°	840								Strep. hem. Staphylococci Gram and diplococci	Pharynx Skin of Body	+	D	+
29	F	37	Fairly Sudden	13	10	103°	300	0	100						Not Done	Pharynx	—	D	—
				23	4	104°	760	3	97				52	3.07	Not Done	Gums			
30	F	28	Sudden	7	2	102°	1,000	69	31			—	70	4.04	Not Done	Oral Mucous Membrane No Necrosis	—	R	—
31	F	40	Sudden	9	5	104°	300	0	100			++++	85	4.64	No Growth	Soft Palate	—	D	—

determined. Only two of the cases (Nos. 1 and 9) showed definite evidence of hemorrhagic diathesis in the form of low platelet counts and petechial hemorrhages. Platelet counts, however, were made on very few of the cases.

Seven cases (22.5 per cent) showed clinical jaundice.

Blood cultures were taken in twelve instances. Positive blood cultures were obtained on five cases. The organisms found in the cultures were, pneumococci, streptococcus hemolyticus, streptococcus viridans, other streptococci, staphylococcus albus, gram-positive diplococci and diphtheroids. Several cases showed a mixture of organisms. If blood cultures had been made on each case, it is probable that a larger number of positive cultures would have been obtained.

Throat cultures were taken on 17 of the cases. None of the throat cultures were positive for Klebs-Loeffler bacilli. All sorts of organisms were recovered in the throat cultures, as might be expected. Rarely were the same bacteria recovered in throat cultures and blood cultures from the same patient. Throat cultures to exclude the diagnosis of diphtheria are valuable, but the identification of other types of organisms in throat cultures has little practical significance for diagnosis, prognosis or treatment.



Graph I. Case No. 2. This patient has had three attacks of granulocytopenia indicated on the graph at points 1, 2 and 4. At point 3 a sterile fixation abscess was obtained in the hip by injections of turpentine. The response to this inflammation was a normal leukocytosis. The patient has been kept under observation during the past 18 months since her first attack and at present is in fairly good general health.

Throat smears were taken on 13 cases. Eleven of these were positive for Vincent's organisms. This is a high incidence of positive smears. The authors are of the opinion that a careful search for Vincent's organisms by means of Gram's or Giemsa's stained smears would give positive results on almost every case of granulocytopenia having ulcero-necrotic throat lesions.

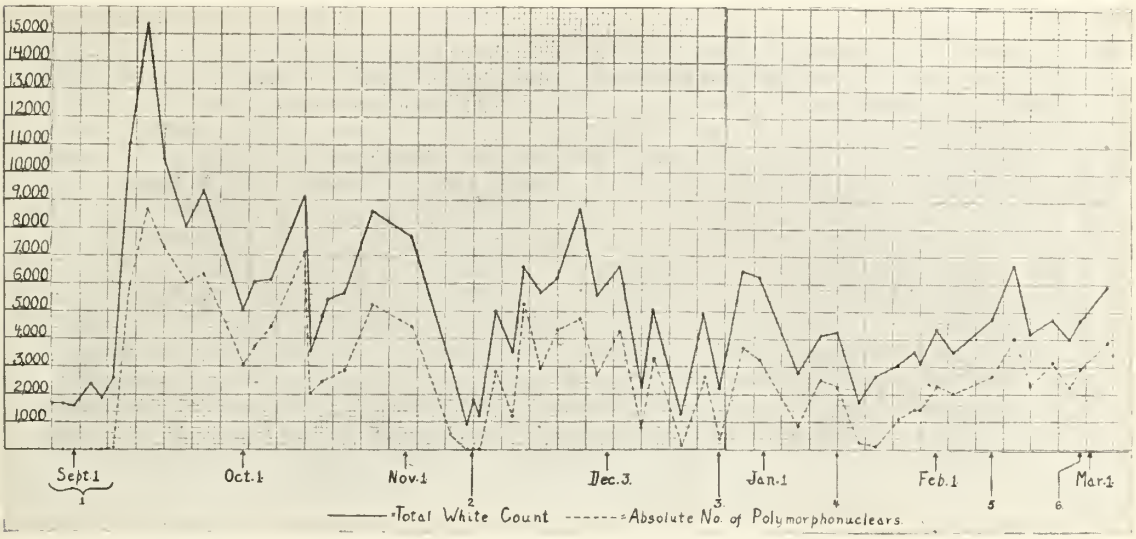
In all but 9 instances there were necrotic-ulcerative lesions in the mouth or throat. Three of these cases showed typical necro-

ses at the time of other attacks of granulocytopenia. Autopsy studies frequently revealed numerous ulcerations which had not been noted or suspected during the illness of the patient. Four of the cases showed ulceration of cutaneous surfaces. Dr. John Gordon has made a study of these lesions and will publish full case histories and descriptions of cases 27 and 28.[13]

Thirteen of the cases showed a bronchopneumonia; in a few instances this was only diagnosed at autopsy. Only eight of the cases recovered, a mortality rate of 74.2 per cent. Autopsies were performed on 9 of the cases.

It is rather curious to note that many of these patients were members of the medical and allied professions, or were relatives of physicians. Cases 5 and 30 were nurses. Case 15 is a physician and case 23 is a dentist. Case 11 was a sister-in-law of a physician, case 12 the father of a physician, and case 13 the mother of a physician. Case 17 was the daughter of a physician, her husband is a physician and she has a brother who is a physician. Case 20 was a mother-in-law of a physician, case 24 a housekeeper for a physician and case 25 was the distant relative of a physician. Case 32 of Table II was a physician.

No comment seems to have been made in the literature on this curious relation. In a recent article Harkins[16] reported 8 cases of granulocytopenia of which one was a physician, one a nurse and one a medical student. It is trite, but doubtless true, that better diagnosis has played some part in the recognition of these cases and has caused an apparent relation. The hazard of frequent contact with infection may be a factor.



Graph II. Case No. 11. This patient has had two attacks of granulocytopenia, indicated on the graph at points 1 and 2. At the times indicated by points 3, 4 and 5, the patient was menstruating. There does not appear to be any definite relation between the menstrual cycle and the elevation or depression of the total leukocyte or absolute polymorphonuclear counts. At point 6 the patient was recovering from a moderately severe head cold of 5 days duration. She is no longer under close medical observation but is said to be in excellent health at the present time, nearly three years since her first attack.

The social status of these patients was given some consideration. Very few of the cases occurred among the poorer classes. Receiving Hospital, a large hospital maintained by the City of Detroit for the poor, and having an excellent staff of alert, well-read physicians, has no record of any cases of primary granulocytopenia. At least 9 of the patients in Table I are extremely well-to-do. Locally the disease is most common among the people of the better classes.

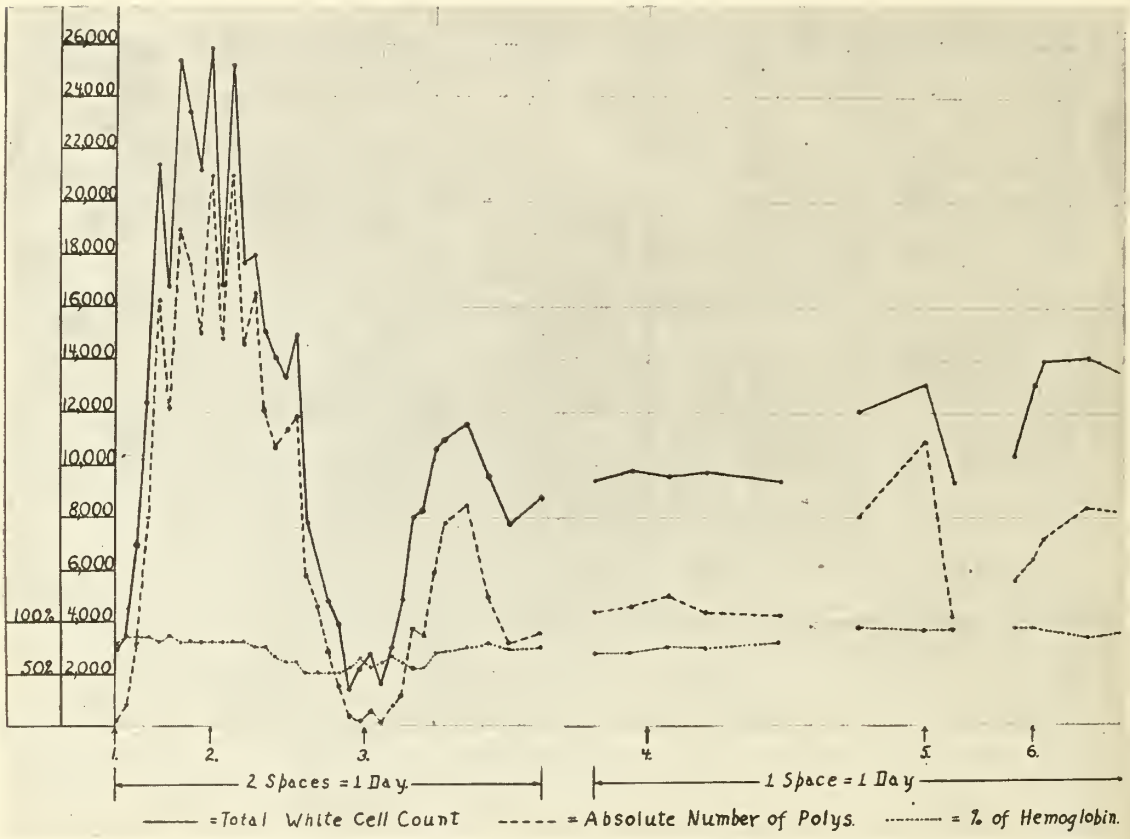
None of the cases occurred in negroes, although Detroit has a large colored population. So far as the authors are aware there have been no cases of primary granulocytopenia reported in the literature among negroes. Wheelihan[17] reported a case of secondary granulocytopenia in an 8 year old negro girl. This case developed during the course of sulpharsphenamine treatment of congenital lues.

The addresses of most of the patients of Table I were obtained and compared with a map of the City of Detroit. No definite

epidemiological relation or evidence of contact was discovered by this means. The patients were scattered throughout the city and its suburbs. None of the patients were blood relatives. The only point which seemed to favor contact, family or geographical relation of the cases was noted in cases 20 and 38. The husbands of these two patients were brothers, the two families lived near each other and were intimate socially. However, an interval of six months separated their illnesses and the granulocytopenia of case 38 was possibly caused by the toxicity of a drug.

The occurrence of the cases by month and year is given in Table II. No marked seasonal variation was observed, but the disease appears to be less common in the summer months than at other times of the year.

The past histories of these patients were carefully analyzed for evidence of past illnesses which might have some bearing upon the etiology of the granulocytopenia. Twenty of the cases (64.5 per cent) had chronic or recurrent acute attacks of upper respiratory disease such as frequent head colds, frequent attacks of acute tonsillitis, frequent or chronic otitis media, peritonsillar abscess and accessory nasal sinus disease. Six cases gave definite past history of gall bladder disease. Three had past histories of fairly recent bone fracture. Previous chronic arthritis was noted in three cases. Two cases reported the recent removal of teeth.



Graph III. Case No. 23. This patient has had two attacks of granulocytopenia indicated on the graph at points 1 and 3. Two months previous to the first attack he had a typical attack of lobar pneumonia. During his convalescence from pneumonia a blood count was taken which showed W.B.C. 12,500, polymorphonuclears 72%, hgb. 75%, R.B.C. 3,710,000. At point 2 on the graph the patient reacted with a normal leukocytosis to a cervical abscess which followed his first attack of granulocytopenia. Staphylococcus albus was recovered by culturing the pus from the abscess and the same organism was recovered from the blood stream during the second attack. At point 4 the patient suffered a very painful phlebitis of the left lower extremity which persisted in gradually decreasing severity for several months. At point 5 the patient was recovering from a moderately severe cold of 14 days duration. At point 6 the patient had a root abscess and the tooth was extracted; at this time there was a marked Vincent's infection of the surrounding gums. The leukocytic response to each of these three infections was essentially normal. Repeated blood counts taken during the intervals shown on the graph were also normal. The patient is still under observation and in good health, more than two years after his first attack.

PROGNOSIS

The mortality rate for the 31 cases is 74.2

TABLE II. INCIDENCE OF CASES IN TABLE I BY MONTH AND YEAR

	1913	1926	1927	1928	1929	1930	Totals
Jan.						3.[2]7.17.30[1]	4.
Feb.					12.	18.[2]	2.
March			24.[2]		23.[1]	3.[3]26	4.
April			21.		22.23[2]	27.	4.
May				4.		20.	2.
June					2.	10.	2.
July		25.					1.
Aug.	29.			8.11[1]		14.	4.
Sept.						30.[2]31.	2.
Oct.		16.[1]*		1.19			3.
Nov.				11.[2]	3.[1]5	9.	4.
Dec.		16.[2]*24[1]	6.18[1]		13.15	28.	7.
Totals	1.	4.	4.	6.	9.	15.	39.

*Two attacks of granulocytopenia in the same patient.

per cent. It is approximately the same for the two sexes (70 per cent males, 76 per cent females). The average age of fatal cases was, for females 47 years, and for males 37 years.

There have been numerous attempts to establish some criteria which would be useful in giving a prognosis in these cases. A few years ago Watkins[12] postulated that patients showing a total white count of more than 1,000 cells per cubic millimeter would usually recover, while patients having counts lower than 1,000 would usually die. Rosenthal[2] believes that the blood picture of recovered cases is usually higher than that of fatal cases. In his series of cases three fatal cases showed white counts higher than 1,000 and only one recovered case showed a count of less than 1,000. In the authors' series, five cases (Nos. 3, 5, 11, 15 and 30) had counts of less than 1,000 but recovered, while five cases (Nos. 4, 7, 12, 25 and 27) had counts higher than 1,000 with fatal termination.

It is true, however, that the tendency in fatal cases is to lower counts and lower percentages of polymorphonuclears. In the authors' series of cases the average of the lowest recorded total white cell counts during attacks of granulocytopenia from which the patients recovered was 1,590 with an average of 10.5 per cent of polymorphonuclear cells. The average of the lowest recorded total white cell counts during fatal attacks of the illness was 795 cells per cubic millimeter with an average of less than 1 per cent of polymorphonuclear cells.

Most of the cases showing small percentages of myelocytes in the differential counts have recovered. This is not a wholly reliable rule. Age and sex do not seem to influence the prognosis. There is little difference between the average age of the recovered and the fatal cases and the mortality rate for the two sexes is practically the same.

All of the cases in the authors' series which showed definite signs of bronchopneumonia had a fatal termination. This may be a reliable sign of poor prognosis. All of the cases having cutaneous ulceration likewise died. Of the five cases which showed positive blood cultures, all died but one.

TREATMENT

Many forms of therapy have been tried, none of them with marked success. Some of the drugs and forms of therapy which have been used locally are: intravenous injections of typhoid vaccine or arsphenamine; intramuscular injections of vaccines,

nucleinic acid and leukocytic extract; oral administration of iron, arsenic, liver and liver extracts; X-ray irradiations of the long bones and spleen; sterile fixation abscesses produced by injections of turpentine; blood transfusions from ordinary donors and from patients who have recovered from the disease.

In most of the local cases several forms of therapy were given simultaneously so that it is almost impossible to determine the independent value of a given form of treatment. It should be remembered that spontaneous recovery may occur without treatment or in spite of treatment. Case 21 was diagnosed as agranulocytic angina in a local hospital, a fatal prognosis was given, but, at the request of his wife, he was discharged so that he might die at home. He did not have a physician attending him at his home and received no medication. He spontaneously recovered from his illness and is in excellent health at the present time. Blood from this patient was given to case 5 and the patient recovered.[10] Since that time blood from the same patient has been given to cases 10 and 13 but without favorable result. Harkins[16] reported a case successfully treated by immune blood transfusions.

The authors believe that hospitalization, good nursing, supportive and symptomatic treatment will give as good results as any other forms of therapy.

CASE REPORT

One of the cases (No. 16) presents a number of very unusual features. Drs. J. M. Robb and R. K. Miller have granted the authors permission to report the case in detail.[18]

Mrs. C., 40 years old, was born in Poland, came to the United States at the age of six years. She returned to Poland in 1923, and came to the United States again in October, 1926. Both her personal and her family histories were negative so far as her latest illness was concerned.

The patient dated the onset of her illness as September, 1924, for she had not enjoyed perfect health since that time. She had just been delivered of her youngest child. The puerperium was normal, except that a mild jaundice was noticed, lasting a week. However, the patient had been weak ever since the delivery. She had slept poorly. She had been subject to night sweats and had lacked her usual energy.

In June, 1925, she had an attack of inflammation of one eye that made her feel sick for three weeks. Her condition was not changed except for an attack in May, 1926, of severe sore throat with chills, fever. After five days without relief she consulted a physician, who discovered numerous ulcers in her mouth. The ulcers healed rapidly and the patient felt cured until a week or so later when she had a second attack with similar recovery. These attacks were repeated with increased severity until August. Her general condition was so poor that on several occasions she was not expected to live. The attacks always started with a soreness in the tonsillar region, chills and fever. The superficial ulcerations developed about the fourth or fifth day of the attack and healed rapidly without scarring. With one attack, she developed the same kind of ulcer on the lower aspect of the left breast. With this exception, the ulcerations were confined to the mouth. The smears from the ulcers showed Vincent's organisms. The Wassermann was reported negative. One physician treated the patient for foot and mouth disease.

During August, 1926, she was free from attacks. In September she developed an abscess, which healed normally, in the left side of the neck. Later in the month she had a recurrent attack of sore throat and stomatitis which healed rapidly. In October, 1926, she sailed for America. On the way over, she had the premonitory symptoms of fever, chills and sore throat. The ulcerations, however, did not appear. Arthritis in the right wrist developed instead, which lasted only a few days, but left an ankylosed wrist joint. The soreness of the throat returned and the patient entered the hospital soon after reaching Detroit.

Physical examination showed among other things the skin to be dry and of a faint icteric tint, over the face, suggestive of myxedema. The nose had a crusted condition of chronic nasal catarrh, most marked on the nasal septum, which deviated to the right side. By transillumination, both antra were more cloudy than normal, but both frontal sinuses were clear. There was some swelling over the left temporo-mandibular joint and marked tenderness on moving the jaw. The teeth were clean, showing no pyorrhea. Several had been extracted. The tongue appeared smooth but atrophic along the margin. In the center of the tongue there was a small elevated, erythematous, tender papule. On the inner surface of the lower lip, there was a discrete oval greyish scar that resembled a canker sore, except that it was not tender. The pillars of the tonsils were injected and swollen; the tonsils were completely buried. Miliary papules were seen on the anterior pillar of the left tonsil. The neck contained small discrete palpable glands, that were tender. There was a scar well healed in the lower portion of the left side of the neck.

While in the hospital, November 3, 1926, the patient developed a polyarthritis involving the left

BLOOD COUNTS

Date	Temp.	Pulse	Hgb.	R.B.C.	W.B.C.	Polys.	Lymph.	L.M.	Eos.	Bas.
10/29/26	101^{4}				4,000	0	95%	2%	2%	1%
10/31/26	100^{4}	88	80%	3,880,000	3,600	4%	72%	24%		
11/ 5/26	100	92			3,100	55%	39%	6%		
11/ 7/26	98	80	75%	4,500,000	2,500	52%	40%	6%	1%	1%
11/14/26	97^{8}	80			4,500	64%	31%	5%		
12/ 5/26					4,600	59%	37%	4%		
12/22/26	101^{8}	100			1,500	0	88%	12%		
12/24/26	100^{6}	120			800	0	95%	5%		

temporo-mandibular joint, the right wrist and elbow, both knees and the joints of the left hand and foot. The afflicted joints showed pain, tenderness, heat, swelling and redness. She was put on salicylate therapy but the recovery from the arthritis was very slow. November 11, 1926, her tonsils were removed under local anesthesia. The tonsillar fossæ healed with no more than the usual reaction. When she was discharged from the hospital, November 14, 1926, she seemed on her way to complete recovery.

December 5, 1926, the patient was seen in her home. She was feeling greatly improved, but the arthritis still confined her to bed. She had lost about twenty pounds in weight. When seen December 12, 1926, she was able to walk a little, but had not completely recovered. December 14, 1926, the patient developed an acute head cold with nasal obstruction and nasal discharge. December 15 she had chills and fever of 104° F. The following day grouped vesicles, which caused unpleasant itching, appeared in the midline over the upper part of the sternum. These vesicles ruptured spontaneously, leaving superficial ulcers. December 20, 1926, the right side of the face became swollen, firm and slightly tender.

The patient was examined December 22, 1926. The lymph glands in the upper right side of the neck were swollen, firm, not very tender, and the skin over this area was tense and brawny. There was no fluctuation present. There was a single pustule of millet seed size in front of the right ear, and another pustule on the forehead. The anterior nares were swollen, red and tender. There was a superficial ulcer on the upper lip. The mouth was free from lesions. The tonsillar fossæ were clean, showing no pathology. Over the middle third of the sternum was an ulcer about the size of the palm of a man's hand. It was superficial with a distinct serpiginous slightly elevated margin and a dirty base. There seemed to be no reaction to the ulcer by the surrounding tissue. The condition remained unchanged for the following two days. The patient complained of being unable to rest. Examination of the heart and lungs revealed no pathology in the chest. The cervical glands showed no tendency to break down or disappear. In the posterior axillary fold on the left side was a smooth swelling. This had the consistency of a lipoma. The axillary glands were not swollen. The presternal ulcer remained unchanged.

The patient became rather acutely dyspneic about 9:00 a. m., December 24, 1926, and during the night her dyspnea increased and a cyanosis appeared, most marked in the hands and feet. December 25, 1926, at 4:00 a. m., the patient died.

Permission for post-mortem examination was refused.

In this case the blood findings, as reported by Dr. P. F. Morse, are very interesting. The peculiarity consists in the variation of polymorphonuclear leukocytes, which it will be seen were found to vary from 64 per cent to 0. At three examinations they were found entirely absent and one examination showed 4 per cent.

II. ATYPICAL PRIMARY GRANULOCYTOPENIA

Four cases were classified in this group. Two were males and two females. The average age was 42.5 years. The type of onset of the illness varied considerably in the various cases. The duration of symptoms was rather brief and about the same as of the typical primary cases. The temperature in two cases was moderately high, the temperature in one case was not re-

TABLE III. ATYPICAL PRIMARY GRANULOCYTOPENIA

Case	Sex	Age	Type of Onset	Duration in Days: Total	Duration in Days: Acute	Temperature	Leukocytes	Polymorphonuclears	Lymphocytes	Mononuclears	Myelocytes	Wassermann	Hemoglobin	R.B.C. in Mill.	Blood Cultures	Location of Necrosis	T. Pneumonia	Death or Recovery	Autopsy
32	M.	33	Gradual	15	6	102°	9,100	0	100	—	—		65	2.89	No Growth	No Necrosis	+	D.	+
33	F.	44	Sudden	?	7	99*	1,150	20	80	—	—		86	3.95	No Growth	No Necrosis	—	R.	—
34	F.	37	Fairly Sudden	9	3	103°	8,900	—	—	—	—		85	—	Not Done	Pharynx	—	D.	—
35	M.	56	Gradual	19	?	?	7,900	1	99				32	1.09	Not Done	Gums	+	D.	—

*Temperature never over 99.4°.

corded and in another the patient was afebrile throughout her illness. Three cases showed essentially normal total white cell counts, one showed a marked leukopenia. Three cases showed markedly diminished or absent polymorphonuclear cells. In one case a differential count was not made as the patient died shortly after entering the hospital. There was no anemia in two of the cases, one case showed moderate anemia and another severe anemia. Two had evidence of hemorrhagic diathesis (Nos. 32 and 35) in the form of low platelet counts and petechial hemorrhages in the skin. Two cases showed necrosis of the mucous membranes, two did not. Two cases had a terminal broncho-pneumonia. Only one of the four cases recovered; she is living and well more than a year after the illness and has had no recurrences. These cases were all examined rather carefully and due care was taken in arriving at a differential diagnosis. An autopsy was done on one of the cases and no pathology was discovered which was not compatible with the diagnosis of primary granulocytopenia. Autopsy studies should have been made on more of these cases, but the authors feel that they are all closely related to those cases included in Table I.

Evidence that these cases are related to typical cases of primary granulocytopenia might be adduced from the blood picture of some of the cases which have had repeated attacks. Note the blood picture of the third attack of case 3, the first attack of case 18, and the second attack of case 30 of this paper.

III. SECONDARY OR SYMPTOMATIC GRANULOCYTOPENIA

This is a heterogeneous group of 7 cases. Numbers 36 and 37 are cases of aplastic myeloid disorders occurring in luetic patients during the course of intensive arsphenamine treatment. Case 38 developed granulocytopenia following vigorous anti-arthritic treatment with Farrastan. This case has been previously discussed. Case 39 is one of chronic aplastic anemia occurring in a 3.5 year old boy having a terminal Vincent's stomatitis, severe leukopenia and granulocytopenia. Cases 40, 41 and 42 had various forms of leukemia.

ASSOCIATION WITH SYPHILIS

Wassermann tests were taken on but 17 of the 42 cases of this paper. Four cases showed positive reactions (cases 1, 31, 36 and 37), all were middle-aged women, all died except case 36. The granulocytopenia of two cases (Nos. 36 and 37) developed during the course of intensive intravenous treatment with arsphenamine. The blood and clinical picture of these two cases was quite like that of classical agranulocytic angina.

Case 1 was a luetic with persistently positive Wassermann reaction. She had not received any form of anti-syphilitic treatment for 22 months previous to the development of the granulocytopenia. It seems unlikely that arsphenamine affected the bone marrow after 22 months. The authors are of the opinion that the relation here, between the syphilis and the occurrence of granulocytopenia, is one of mere coincidence.

In case 31 a positive Wassermann reaction was obtained at the time when the granulocytopenia occurred. This was the first and only Wassermann test made on the patient. Four years previous to the onset of the granulocytopenia she was in an automobile accident. At that time her skull was fractured and her scalp badly lacerated. The scalp wound healed slowly and a portion of the wound remained unhealed for several months. Ultra-violet ray treatments, caustics and curettage failed to effect healing. A family physician, whom she consulted, suggested that the failure to heal might be due to lues and suggested a Wassermann test. The patient refused to allow him to take blood for the test, but took the small doses of potassium iodide which he prescribed. The wound healed almost miraculously within about four days.

Her family history was negative for syphilis, she was never pregnant nor had she ever had any other form of antiluetic treatment than the small doses of potassium iodide for a few days. A Wassermann test taken on her husband was negative and he denied ever having had any form of antiluetic treatment.

The authors believe that the luetic infection in this case was merely incidental. It is unfortunate that permission for autopsy was refused.

GRANULOCYTOPENIA IN CHILDREN

No cases having the full clinical and blood picture of agranulocytic angina have been observed among the children of Detroit.

TABLE IV. SECONDARY AND SYMPTOMATIC GRANULOCYTOPENIA

Case	Sex	Age	Type of Onset	Duration in Days		Temperature	Leukocytes	Polymorphonuclears	Lymphocytes	Mononuclears	Myelocytes	Wassermann	Hemoglobin	R.B.C. in Mill.	Blood Cultures	Location of Necrosis	T. Pneumonia	Death or Recovery	Autopsy
				Total	Acute														
36	F.	37	Gradual	App. 60	?	101.5°	1,700	13	84	3		+++	66	3.60	Not Done	Pharynx Tonsil Soft Palate Ante-cubital space	—	R.	—
37	F.	29	Sudden	7	7	102°	275	1	99			+++	72	3.76	No Growth	Pharynx Gums	+	D.	—
38	F.	43	Sudden	10	5	?	700	0	100				85	4.60	Not Done	Tongue Gums	—	R.	—
39	M.	3.5	Sudden	5	5	103°	1,900	0	100				65	2.45	Not Done	Pharynx Gums Tonsils Uvula	—	D.	—
40	F.	22	Gradual	40	26	103°	122,000*	3	11		86	—	30	1.81	No Growth	Oral mucous membranes Gums, Vagina, Labia majora Rectum	—	D.	—
41	F.	28	Gradual	14	5	104°	750	7	71	22		—	36	2.10	Not Done	Gums	—	D.	—
42	M.	26	Gradual	18	10	100°	2,950	10	61		20	—	76	3.76	Not Done	Tonsil Faucial pillar	—	R.	—

*Highest count.

Typical cases, occurring in children, have been reported in the literature.[19, 20] Case 39 of this paper presented a terminal picture very much resembling that of agranulocytic angina. However, this child had been under observation for several months and was known to have had a severe aplastic anemia during that period. The child was treated by repeated small blood transfusions and was discharged greatly improved. Two weeks later the patient was readmitted in extremis, with a blood and clinical picture quite similar to that of agranulocytic angina. The child died 36 hours after his second admission.

A number of other cases of severe aplastic anemia occurring in children will be found tabulated in Table IV. The records of these cases were obtained from the local Children's Hospital of Michigan through the courtesy of Dr. Thomas Cooley. Dr. Cooley has written about this type of case.[21]

RELATION TO LEUKEMIA

Three cases (Nos. 40, 41 and 42) showed leukemic blood pictures. One case (No. 41) had been seen and studied previously and was diagnosed aleukemic leukemia. Eight months later the patient again became ill with fever, dysphagia, sore throat and malaise. Physical examination revealed an acutely ill patient with moderate fever, injection of the pharynx, edema about the right tonsil, an ulceromembranous infection of the gums and a generalized pea to bean sized lymphadenopathy. The blood picture was typical of an aleukemic phase of lymphatic leukemia. There was a severe anemia with low platelet counts. A B.M.R. was +29 per cent. Mouth smears revealed numerous Vincent's organisms. The patient's condition grew worse and a week later her total white cell count abruptly fell from 6,000 to 850 cells per mm.^{3} She died the following day but permission for postmortem examination was refused.

Case 42 was a young adult male who developed what appeared to be a severe cold, sore throat of gradually increasing severity, and dysphagia. Examination revealed a moderately ill patient with slight fever, injection of the pharynx, edema of the peritonsillar region and a cervical pea to bean sized lymphadenopathy. No other lymph nodes were enlarged; the spleen was not palpable. There was a moderate anemia with approximately normal platelet counts. The polymorphonuclear cells were markedly diminished and myelocytes were present in from 12 to 39 per cent. The peritonsillar swelling was replaced by ulceration and sloughing which healed in a few days. The patient made a fairly rapid symptomatic recovery but his blood picture remained about the same as on admission. He was discharged much improved and was advised to return each week for check-up, but has failed to keep his appointments.

Case 40 was a young woman; following the extraction of a left upper molar, the adjacent gums became painful, bled freely and healed slowly. The left jaw became swollen and painful with resulting dysarthria and dysphagia. She became feverish, lost her appetitie and felt weak. Examination showed marked swelling of the left upper jaw, limitation of motion in the tempero-mandibular articulation and unhealed gum margins. There was no local or general lymphadenopathy. Her temperature was moderately elevated. Roentgenograms showed the presence of an infective osteitis in the left superior maxilla.

Eleven blood counts were taken. The R.B.C. rose from 2.01 million to 2.84 million (transfusion) and gradually fell to 1.81 million. Hemoglobin percentage rose from 45 to 55 and gradually fell to 30. Total white cell counts rose almost steadily from 27,600 to 122,000 per mm.^{3} Mature polymorphonuclear leukocytes were present in from 3 to 11 per cent, myelocytes were present in from 34 to 86 per cent. No platelet counts were made.

Shortly after admission to the hospital the patient developed an ulcerative gingivitis and stomatitis which slowly extended over much of the oral and pharyngeal mucosa. A superficial non-indurated ulceration appeared on the left labia majora; this spread, involving the labiæ and vagina extensively. Terminally, a few small, superficial ulcers appeared in the rectal mucosa. There were no petechial hemorrhages in the skin or mucous surfaces but the patient expectorated bright red mucus on several occasions and once had an emesis of food and bright red blood. She died, but permission for autopsy was refused.

These and other published cases[22] demonstrate a relation between agranulocytic angina and leukemia. In each of these cases the picture of agranulocytic angina was

superimposed upon or followed a picture of leukemia.

In each of these cases there was some evidence of concomitant infection. Leukemic individuals are notoriously susceptible to infections and show atypical defense reactions to them.

Howell[23] noted that leukemic individuals, when given typhoid vaccine in dosages which cause agglutinin formation and opsonin production in normal controls, fail to produce these antibodies. Leukemic individuals who contract typhoid or paratyphoid infection may fail to develop the specific agglutinins in the blood.

Rotky's experiments[24] with a harmless bacterial species showed a failure of leukemic individuals to develop specific anibodies while normal controls would produce the antibodies.

Howell[23] also noted that the leukocytic reaction of leukemic individuals to vaccination is quite variable. Some of the cases reacted, as do normal individuals, with a leukocytosis. Some showed no change in the white cell count and in others there was a definite leukopenia. Howell believes that the variable leukocytic reaction, like the failure of antibody formation, is probably the result of leukemic alterations in the hematopoietic tissues.

Jordan and Falk[25] cite experimental evidence that the normal site of antibody formation is likely in the hematopoietic tissues, probably in the reticulo-endothelial cells.

Leukemic individuals do not react to malarial infection as do normal persons.[26, 27] Instead of an increase in the enormous number of circulating leukocytes, a marked decrease occurs. The total white cell count may fall to an approximately normal figure and symptomatic improvement of the leukemia is frequently observed. Attempts have been made to use malarial inoculation as a therapeutic measure in leukemia, but these efforts have been abandoned because of the danger to the life of the patient and the transitory character of the remission.

SUMMARY

Previous attempts at classification of cases of granulocytopenia are critically discussed and an original classification is proposed. Forty-two cases of granulocytopenia from a single locality (Detroit, Michigan) are presented and classified. The relation of pri-

TABLE V. SECONDARY GRANULOCYTOPENIA IN CHILDREN

Case	Sex	Age in years	Diagnosis	Pathological Examination	Leukocytes	Polymorphonuclears	Large Lymphocytes	Small Lymphocytes	Basophils	R.B.C. in Millions	Hemoglobin	Platelets	Necrosis	Result
1.	M.	3	Aplastic anemia Lymphoblastoma	Biopsy	200	4	32	64	0	2.88	50	10,000	None	Death
2.	M.	4	Aplastic anemia Osteomyelitis of jaw	Autopsy	3,000	1	3	96	0	1.00	30	*	Buccal mucous membrane over the osteomyelitis	Death
3.	M.	1.5	Aplastic anemia Chronic bilateral otitis media and mastoiditis	Autopsy	300	4	0	96	0	1.78	35	10,000	None	Death
4.	M.	8	Aplastic anemia Hodgkin's disease	Autopsy	16,000† 3,600† 5,400†	17 46 39	62 28 20	17 24 36	4 0 3	1.80	35	*	None	Death
5.	F.	5	Aplastic anemia Cause unknown	None	900	40	44	16	0	2.20	35	*	None	Death
6.	F.	4.5	Aplastic anemia Cause unknown	None	1,100	0	0	100	0	1.84	25	100,000	None	Death

*Too few to count.

†Counts taken on the last 3 days of life.

mary granulocytopenia (agranulocytic angina) to other conditions is discussed.

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NEWER PHASES OF CHILDHOOD TUBERCULOSIS

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Perhaps in no other disease can the physician exercise his ingenuity as a public health agent and practice preventive medicine as in childhood tuberculosis. More than in any other specialty, the pediatrist is looked upon, not only to alleviate the suffering of children and cure disease, but to prevent disease and to make the community in which the child lives a better one. Among the diseases in which considerable progress has been made during the past ten years, tuberculosis ranks with the first. Our views on tuberculosis, especially the childhood type, have been changed considerably since this extensive work has been done in this country.

Tuberculosis, like many other diseases, had many classifications of the various stages of the disease. To simplify matters, the National Tuberculosis Association divided tuberculosis into two main divisions, the childhood and the adult type of the disease. The characteristics of the childhood type of tuberculosis are:

1. Usually occurs in childhood, occasionally in adults.
2. Is the result of a primary infection.
3. May be localized in any part of the lung.
4. Tracheobronchial lymph nodes are always involved.
5. Excavation is very rare.
6. There is little tendency to fibrosis.

The characteristics of the adult type of tuberculosis are:

1. Usually occurs in adults, rarely in children.
2. Is the result of a reinfection, exogenous, or endogenous in origin.
3. Lesion is usually localized in the upper part of the lung.
4. Tracheobronchial nodes are not involved by this infection.
5. Caseous lesions are followed by excavation and fibrosis.

In general, we consider tuberculosis an acquired disease; however, there are slightly less than two hundred authentic cases of congenital tuberculosis. Ordinarily the human placenta acts as a barrier to disease germs which are floating around in the blood stream of the mother. Still, we can conceive of a tuberculous mother damaging the placental filter just enough to allow passage of the germ to the fetus without causing active disease of the placenta itself. This remains a matter of speculation, which has to be proven by more scientific study.

We are of the opinion that individuals become infected with the tubercle germ during childhood. The percentage of infection increases with age of the child and varies according to hygienic surroundings. Tuber-

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culosis infection is not universal and is not as prevalent as we were led to believe at one time. From observation made in European clinics, it was thought that most children at the age of 18 years were already infected with the germ. However, observations made in this country did not bear this out. Chadwick and Zachs reported 42,000 cases in 1929 with an average percentage of infection of 28 per cent; Matill and Fenger reported 1,400 cases with an average infection of 15 per cent; Rathburn reported 4,200 cases with an average infection of 35 per cent. These cases ranged from one to 18 years of age. Observers working with adults report an average of 60 per cent of infection.

In general, we divide tubercular infections into two main types, the human and bovine. For all practical purposes, the bovine type can be ignored after infancy, as it has been conclusively shown that over 90 per cent of infections in children are due to the human type of organism, since the pasteurization of milk and the scrupulous examination of cattle. Further, those children infected with the bovine germ also give a positive tuberculin reaction when tested with the human organism. Whether or not a child shows signs of infection will depend entirely on his exposure, either directly or indirectly, to an open case of tuberculosis. This is usually of the adult type; however, certain types of tuberculous children are also infectious. Most observers believe that all children repeatedly exposed to an open case of tuberculosis will become infected.

The tubercle germ enters the body of the child, usually, either through the respiratory or the digestive tract. The most common route appears to be the respiratory; however, the younger the child the more chance of contaminated food and other articles entering the mouth. It is true many more bacilli are swallowed than inhaled, but according to European observers the lung has a predilection for infection, because of its abundant blood supply and its inadequate lymph supply. The less common portals of entry are, (1) the abraded skin, as in circumcision, (2) the conjunctival sac, and (3) the nose, throat and middle ear.

Tuberculous infection and tuberculous disease are not synonymous. Repeated exposure to the tubercle germ invariably results in infection. Whether or not a child will take down with the disease depends on the dosage of the infection and the resistance of the child. Not so long ago we believed infants infected with the tubercle bacillus were doomed to die. Today, we know that simple tuberculous infection in infancy does not lead to clinical disease in a high percentage of cases. Only through repeated infections do we find clinical evidence of disease process. Further, we have on record many cases of tuberculous disease in infancy with apparent complete clinical recovery.

We have a definite method of detecting tubercular infected children, that is through the tuberculin test. There are several methods in applying the test in use. They are: (1) the Cutaneous or Pirquet test, (2) the percutaneous, or Moro test, (3) the intracutaneous or the Mantoux test, (4) the conjunctival, or Calmette test, and, (5) the multiple puncture, or the Craig test. The two most commonly employed are the Pirquet and the Mantoux test. Where large surveys are being done in school children, the Pirquet method is usually used. This test is usually applied on the forearm. The forearm is cleaned with alcohol, three scarifications are made with the Pirquet borer and the tuberculin is then applied on the two outer scarifications, the middle one serving as a control. This test is then read from 48 to 72 hours after application. This method will probably miss from 6 to 10 per cent of tuberculin-positive children. The Mantoux test is the more positive of the two and consists of introducing tuberculin in various dilutions in a similar fashion to the Schick test. We usually begin with 0.01 mg. and increase to one mg. to obtain a positive test. Recently Forbes and Steinberg reported a higher incidence of positive reaction from the Craig test than the Pirquet, but slightly less than the Mantoux test. This test is performed like an ordinary vaccination, the tuberculin being applied to the skin and then 15 to 20 puncture wounds are made, after which the tuberculin may be wiped off.

Having screened out the infected children, with the tuberculin test, we then proceed to find those that have tuberculosis, the disease. As we have previously said, out of a large group of infected children only a small group will be actually diseased. Chadwick after examining 51,000 school children in Massachusetts, found 28 per cent of them

infected: 1.5 per cent showing the actual childhood type of tuberculosis; 3.4 per cent showing suspicious lesions. Our method of diagnosing childhood tuberculosis depends upon several measures. First, we must get a careful history of the child, especially in relation to exposure to the disease; second, a careful physical examination of the child must be made, and third, an X-ray study of the chest of all reactors must be done.

In regard to the history of the patient, it is not always possible to obtain a history of direct exposure to the disease. On carefully questioning all contacts of a child, it will be surprising the number of open cases of adult tuberculosis frequently found. Besides a history of exposure, a complete medical history of the child relative to symptoms of tuberculosis is essential. As the disease has an insidious onset and the course is rather protracted, the symptoms in the child are very vague and often absent. We may obtain a history of fatigue and lassitude with a poor appetite and weight loss or failure to gain in weight. The younger the child the more apt is he to have a positive history. However, Opie working at the Phipps Institute found evidence of childhood tuberculosis as frequently in the well nourished child as in the under-nourished. Frequently we get a history of an irregular or prolonged slight elevation of body temperature, associated with frequent upper respiratory infections and chronic persistent cough. In general, however, our history is not an accurate method of diagnosing childhood tuberculosis, unless we have a positive history of exposure in a tuberculin-positive child and X-ray evidence of disease.

Our least definite method of diagnosing childhood tuberculosis is through physical examination. Only when we have definite parenchymal infiltrations of considerable extent do we find physical alterations in the lung relative to palpation, percussion, or auscultation. Interscapular or paravertebral dullness, D'Espine's and Eustache Smith's sign have all been found to be unreliable in cases of childhood tuberculosis as shown by X-ray examination of the lungs. Pleurisy, while a frequent finding in the childhood infection, is often undiagnosed because of the small amount of fluid usually present. When primary infection enters the tonsils, the cervical glands of the neck, or the mesenteric glands of the abdomen, the findings are less indefinite, but the diagnosis will depend upon other evidence of the disease, such as a history of exposure and a positive tuberculin test.

Our most reliable method of diagnosing childhood tuberculosis is through the roentgen examination of the lungs. This is true because sooner or later in the course of the disease the primary infection or its secondary effects will show itself in the lung tissue or the regional lymph nodes. To understand this we must recall for a moment the pathologic sequence of events in the progress of a tubercular infection in the lung. Most observers believe the tubercle bacillus is aspirated into the lung similar to a foreign body. The tubercle germ sets up, almost immediately, a primary alveolitis with a specific tissue reaction, a pouring out of lymphocytes with a secondary formation of epithelioid cells and giant cells. Almost at once there is a metastasis in the regional lymphatics, draining the diseased pulmonary area. There is usually a marked peripheral inflammatory process around the primary focus, especially in infancy and early childhood. This primary focus may either completely absorb without leaving any permanent scars or it may undergo the changes characteristic of tuberculous lesions, caseation, fibrosis and calcification. In childhood there is very little tendency to excavation and cavity formation, although this may occur. There is also little tendency to fibrosis. The primary lesion usually undergoes central caseation and later takes on calcium or true bone deposits. This process may go on for years until the primary focus has become calcified enough to show upon X-ray examination. This primary calcified focus is frequently, although not always, found on X-ray examination of the lungs.

More frequently found than the calcified primary focus, or the Ghon tubercle, are changes in the tracheobronchial lymph nodes; as we have said previously, almost immediately upon the setting up of a primary infection in the lung tissue, a similar process is noted in the regional lymph nodes. These nodes at first become enlarged due to a direct inflammatory process of the gland and a secondary peripheral inflammation surrounding the gland. These glands undergo in a similar fashion caseation, and calcification. In the young infant the glandular enlargement may very rarely cause marked

dyspnea. Almost invariably a previous childhood tuberculosis will reveal itself in the tracheobronchial nodes. Krause has shown when a tuberculous process exists in parts of the body remote from the lung, the tubercle bacilli are carried to the hilum of the lung and produce enlargement of the nodes. The primary lesion in the lung may have completely healed by resolution and disappeared, or it may be in some obscure portion of the lung, which accounts for its frequent absence on X-ray examination. However, according to McPhedran, evidence of the primary infection is almost always found in the tracheobronchial nodes, either as enlargement or calcification. The Ghon tubercle with the calcified hilum glands is frequently referred to as the primary complex of Rancke. From the primary infection in the lung or hilum glands the disease may spread by continuity to the neighboring lung tissue or through the blood or lymph stream to various organs of the body. In the young infant, we sometimes find widespread metastases with a miliary involvement of the lung or other organs of the body, even brain tissue. However, this occurs less commonly than we were once inclined to believe. The older the child, the less frequently does this happen. In the child of school age or adolescence, there is evidence of some immunity to the tuberculous infection, as there develops a localized process in the lung without a lymphogenous involvement of the tributary lymph nodes. This lesion is usually apical and is the early adult type, which, however, may very readily progress into the fatal adult disease with excavation and fibrosis of the lung tissue. Opie, through numerous autopsy examinations, has demonstrated previous childhood lesions in over 90 per cent of fatal cases of adult tuberculosis.

Childhood tuberculosis is for the most part a curable disease. The earlier the diagnosis, the prompter the correct mode of treatment is instituted, and the more certain is the cure. Childhood is the real incipient stage of tuberculosis; it is the golden opportunity when a speedy and permanent cure can be obtained.

Through prompt and early detection of the disease in childhood, most observers believe a large share of the fatal adult cases of tuberculosis can be prevented. Thus we see that childhood is the most important period in the history of tuberculosis; it is the age period in which curable cases of tuberculosis are frequently found.

Our method of treating childhood tuberculosis is in general quite simple. If there is a definite inflammatory process in the lung with enlargement of the regional lymph nodes, sanatorium treatment with absolute bed-rest is indicated. Most cases of childhood infection can be treated at home, provided the following regime is carried out. First, we must try to remove the child from further contact with the disease; in other words, we must discover where the child obtained his disease. Frequently, we will be surprised to find some member of the family or relative, or friend, who requires active treatment for the disease. This is perhaps the most important of all our methods of attack against the childhood infection. Second, we must regulate the life of the child with reference to sleep, exercise and diet. Proper, hygienic surroundings, sufficient fresh air, and a well balanced diet with the proper vitamins are essential in the treatment. Further, all physical defects should be removed and the general condition of the child's body health should be maintained. The establishment of open air and open window schools with proper nutritional classes has a marked effect in the treatment of cases of childhood tuberculosis.

While we believe childhood tuberculosis is for the most part a curable disease, we must not be over-optimistic. Calcification does not always mean the disease is inactive, or in a latent stage. It is possible for areas of caseation to be adjacent to calcium deposits, which may act as a potential source of danger. Rathburn has shown that in 50 per cent of cases of adult and fatal type of tuberculosis developing in high school boys and girls old calcified childhood lesions could be demonstrated. Rathburn, as well as Myers, believes that the 3 or 4 per cent of children who have the childhood type of tuberculosis will furnish 75 per cent of the teen age boys and girls who develop the adult and fatal type of disease. For these reasons, Chadwick and others believe children showing the childhood infection should be scrupulously observed through the twentieth year of life, including repeated X-ray follow-up examinations of the lungs. Our only means of preventing tuberculosis in infants and young children is the avoidance of exposure of the child to adult cases of tuberculosis. Further, it is believed that

most cases of positive tuberculin children and those already showing evidence of childhood infection will handle their infection very well if further contact with the germ is avoided until complete healing has occurred. After infancy, the child withstands the average infection with the tubercle germ very nicely, so that the avoidance of exposure to the germ during the first two years of life is essential if the mortality rate of tuberculosis is to be decreased. Heimbeck, working among student nurses, concluded that a positive tuberculin test in a healthy adult person was an expression of immunity, and even went so far as to actively immunize adults with the B. C. G. vaccine. Calmette and his co-workers, in 1921, developed an attenuated strain of the bovine tubercle bacilli and recommended its use in immunizing newborn infants who might be later exposed to the disease. This became known as the B. C. G. vaccine and was fed to infants on the third, fifth and seventh days of life. If a positive tuberculin test did not result in six to eight weeks, a small dose was given subcutaneously. To date more than 400,000 infants have been vaccinated in France, without any ill effects. However, this method has not become one of general use, because of the belief that this avirulent strain of organism after years of habitus in the human body may again become virulent. Petroff and his co-workers in this country have shown this to be true in animals. In a similar fashion, one is never assured that a simple childhood infection may not progress into a more fatal type of lesion. Therefore, it is necessary to protect older children and adults, as well as infants, from exposure to the tubercle germ until we learn more about the development of immunity to this disesae.

Through extensive educational programs being carried out by the National Tuberculosis Association, the death rate from all forms of tuberculosis has been reduced considerably during recent years. In Detroit the death rate from all forms of the disease in 1920 was 131 per 100,000 population, while in 1929 it was 93 per 100,000, a decrease of 29 per cent, and in 1930 it was 82 per 100,000. However, tuberculosis is still considered America's great white plague. It claims the lives of 100,000 citizens annually. It ranks third in the causes of all deaths, being surpassed only by heart disease and pneumonia. Last year tuberculosis caused 6.2 per cent of all deaths of white persons and 21.6 per cent of negroes in Detroit. Between the ages of twenty and forty-five years, it causes more deaths than heart disease, pneumonia, cancer, kidney disease or diseases of the arterial system. About two million people have some form of tuberculosis and about one million persons have active disease of the lung. Our educational program should be carried out even more extensively in the high school group, as it is just beyond this age-group that the disease is exacting its heaviest toll, especially in the adolescent girl. Only through the routine examination of children with the tuberculin test and the X-raying of all positive reactors for evidence of the childhood infection can we hope to discover the disease in its earliest seeding and prevent the fatal form of tuberculosis in the adult.

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THE INCIDENCE OF HEART DISEASE IN RHEUMATIC FEVER*

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Acute rheumatic fever has, of late years, received considerable attention at the hands of cardiologists, as it is preëminently a condition which is associated with cardiac pathology. One of the chief contributions to information along this line is a monograph on Rheumatic Heart Disease by Carey Coombs, from which the historical bacteriological and pathological data have been taken.

Electrocardiographic studies have been made by a number of men, as, for instance, Levy and Kenneth B. Turner in The Archives of Internal Medicine for February, 1929, in which they state that in 76 of 78 cases there was a change in auriculoventricular conduction, resulting in an abnormally long P-R interval.

In order to compare the effect of this disease in our area with these other writers, we have taken serially 100 staff cases‡ of acute rheumatic fever in our service at St. Mary's Hospital, which we were enabled to follow up because of the fact of our also being in charge of the out-patient department, to which all these patients were referred after leaving the hospital. In this work, we are ably assisted by an efficient social worker.

The relation between rheumatic fever and cardiac pathology was first noted by Edward Jenner, in 1789, it being stated that at a meeting he "favored the Society with remarks on 'Disease of the heart, followed by acute rheumatism,' illustrated by dissections." About the same time, at St. Bartholomew's Hospital in London, mention of this relation was not merely occasional but frequent. It was he who first insisted on the frequency with which the valves of the heart are affected in rheumatism and he showed that the valvular lesions were not transitory but permanent. From this time on, evidence was continually being brought forward by various physicians along this line, and within the last few years Aschoff has shown that there is always an inflammation of the cardiac muscle which is not limited to the immediate neighborhood of the serous membranes but is scattered about in spots throughout the entire cardiac wall.

Whether the heart condition should be considered as the complication, or, as seemed reasonable to some, that it preceded the polyarthritis and chorea and other manifestations, may be a matter of argument. I personally have seen one case in which the heart condition was plainly prior to the arthritic manifestations. Until the time comes, however, when more frequent physical examination will make it possible to determine this point, it must be assumed that the joint condition usually appears before any definite heart lesion is demonstrable. It is quite evident from this particular series of cases which we have studied that the lesions of the heart are not the rule during the first attack. This fact may, however, be more apparent than real, as the joint condition resulting in swelling and pain is readily observed, while the heart condition may be present, of a mild type, so as to very little alter the heart rate or rhythm, change the size of the heart or cause any disturbance in the heart sounds. The seed may be sown at the same time or possibly earlier in the heart than in the joints but the time when the signs are evident is considerably longer in the heart than in the joint condition. Many cases leave the hospital apparently recovered of joint manifestations, even without any recurrence, but years later show up with a mitral stenosis or other disabling heart condition. It has been our conclusion from clinical observation that the etiological factor was some strain of streptococcus. Poynton and Paine, in 1900, succeeded in recovering a small diplococcus from the heart's blood and other tissues and fluids, of eight cases of acute rheumatic infection. Without going into detailed description of this bacterium which they called diplococcus rheumaticus, it has continued to be their opinion that this is the causative factor. Bacteriologists have not been unanimous in

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‡Electrocardiographic changes in the way of lengthened P-R intervals were not noted in this series.

this opinion as others have been isolated as the strain in this condition and considered as the etiological factor. Whatever bacterium it is, the evidence all points to some *one* and the old idea that diet has any influence in its production has been entirely abandoned. As with other infections, there is varying human resistance; some people may be exposed to this infection continuously and never develop rheumatic manifestations. Swift and his co-workers have explained this on the theory of an allergic condition in these patients. Whether this be true or not, there is no question that lowered resistance in the form of undernutrition and undue exposure to cold and dampness are favoring factors. While not escaped entirely by the wealthier members of the community, it is preëminently a disease of people who live under poor hygienic conditions generally, improperly housed and undernourished.

Carey Coombs, from experience of over twenty years in Bristol, England, where he was enabled to follow some patients for this period of time, there being practically no floating population, gives as the pathological condition the following:

"The characteristic interstitial lesion of rheumatic myocarditis is the 'submiliary nodule,' a type of inflammatory focus which is not met with in other forms of cardiac infection, though it does also occur in other organs and tissues attacked by rheumatism (endocardium, pericardium, subcutaneous tissues, synovial membrane, kidney and piamater). In the myocardium, however, it is most readily distinguished, because the inflammatory background which surrounds the nodule when it appears in the other tissues and tends to conceal it, is absent or subdued in the cardiac wall, so that the peculiar features of this lesion are thrown into bolder relief. The components of the nodule are: (1) A fibrinous matrix, which probably consists not only of fibrin but also of cellular debris. (2) Certain large cells, varying in shape but often elongated and fusiform when occurring in the myocardium, having a plentiful supply of deep-staining amphophile cytoplasm, finely granular as a rule and from one to seven or more nuclei, usually of the wheel type in plasma cells; these large cells develop from vascular endothelium and some of them probably represent sprouts of new capillaries. (3) Fibroblasts and plasma cells, the latter being in many respects closely akin to the smaller uninucleate varieties of the (2) type of cell. (4) Leukocytes, chiefly lymphocytes.

"In the earliest phase of the nodule, there are so many lymphocytes and plasma cells that they obscure the fundamentally proliferative nature of the reactions. They, however, gradually disappear, leaving the big cells arranged in and around the fibrinous matrix, set in a framework of fibroblasts. A majority of these nodules lie in contact with the arterioles and may develop in their adventitia or even in their media. The earlier nodules are less definitely delimited and radiate from their point of maximum density along the finer planes of connective tissue between the myocardial cells; but when the lesion is mature its outlines are definite. The muscle cells are thrust aside and crushed a little by the spreading of the nodule. As it disappears it is replaced by a modicum of fibrous tissue. These interesting inflammatory spots are found most abundantly, as a rule, in the walls of the left ventricle and in the septum ventriculorum near its base; they are seen also in the right ventricle, but in the auricular walls they are hard to find, and when they do occur they are often in close relation with the auriculoventricular rings. Indeed, it seems they are particularly fond of the tracts of muscle which border on the central fibrous body, where the latter sends out gradually attenuated strands of connective tissue between the muscle fibers. They may be deeply embedded in the myocardium or in near relation to its serous investments. When in close proximity to the mural endocardium, they are sometimes associated with inflammatory changes in the latter tissue. They have been found in close relation to the a-v bundle, but my own observations have not pointed to any special predilection for this site.

"The blood vessels suffer much and in almost every degree. The mildest change is turgescence of the endothelial cells of capillaries and arterioles; in the next phase, these are seen to proliferate, so much so that the lumen of a moderate arteriole may quite disappear. This being so it is not surprising that thrombosis is a fairly common event. Most often it is in capillaries and small arterioles and venules that this is seen; but sometimes larger arteries may similarly suffer and it has happened to even a main coronary trunk. Perivascular changes, too,

are the rule. Circles of fibroblasts are formed around capillaries and arterioles and the nodule which has already been described is sometimes wrapped like a sleeve around the vessel for an appreciable stretch of its course. In a few instances they have been seen arising in the arterial media.

"The changes in the myocardial cells present are as follows: In the very acute cases, cloudy swelling is seen, sometimes in patches but more often diffusely spread throughout the myocardium. In my experience it is never very intense. Fatty metamorphosis is the most definite phenomenon seen but it is not found in every case and it is also a feature of the later stages of the disease when active inflammation has long been quiet, so that it cannot be regarded as a satisfactory index of the extent to which the several parts of the myocardium are feeling the direct influence of the bacterial poison. It is most definite, as a rule, in the wall of the left ventricle, in particular in those parts of the muscle which lie nearest to the pericardium; sometimes it seems to be more concentrated in the immediate vicinity of the nodules but this is not a safe general rule.

"Careful examination of hearts, in most of which the sino-auricular node and the auriculo-ventricular bundle were examined in series, reaching throughout their length, has proved to me that there is no special incidence of inflammatory or degenerative changes in either. In one case, one of the bays of blood diving in between the pectinate muscles of the right auricle had actually burst through the endocardium and invaded the sino-auricular node at the middle of its length; in one other, submiliary nodules of small size were seen on the edge of the s-a node; and in cases of chronic cardiac rheumatism with advanced intracellular degeneration, the fibres of the s-a node and the a-v bundle may show in a mild degree those changes that have reached a high pitch in the ordinary fibers of the auricular wall. The intravascular reaction of chronic cardiac rheumatism is often displayed in an extreme degree in the artery to the a-v bundle. I have seen it almost completely occluded; yet the fibres of that same bundle were scarcely altered from the normal.

"Endocardium: The valves are injured by rheumatic endocarditis in the following proportions, as ascertained by an abstract of autopsy findings from Bristol General Hospital. From this I have excluded ulcerative endocarditis but have included all phases of undeniably rheumatic lesion of the valves:

Comparative Incidence of Valve Injury in Rheumatic Endocarditis
97 Autopsy Records

No. of Cases	Mitral	Aortic	Tricuspid	Pulmonary
97	97	57	35	2

"The mitral valve was injured in every case, the mitral and the aortic in 34, the mitral and the tricuspid in 12, the mitral, aortic and tricuspid in 21 and all four valves in 2. It may, therefore, be said that in all cases of rheumatic carditis the mitral valve is injured, the aortic in half, the tricuspid in a third and the pulmonary valves scarcely ever.

"Microscopical examination of a valve acutely inflamed as a response to rheumatic invasion shows certain phenomena which it is difficult to arrange in chronological order. This much may be said: The deeper structures react before there is evidence of injury to the endothelial surface. These deeper reactions are mainly formative, partly exudative. Proliferation occurs in the fixed connective tissues, resulting in a free formation of fibroblastic cells; and blood vessels are rapidly produced, being presumably projected into the valve from these vessels which normally penetrate but a short distance into its basal part. The quickness with which a valve becomes permeated with new vessels is remarkable. Around the newly formed vessels, fibroblasts are arranged in concentric circles. Their endothelium, attacked by toxin, swells up, proliferates and is shed. Thrombosis follows and in the course of time a submiliary nodule may be produced.

"On the surface, the first departure from normal is endothelial proliferation, which often occurs over a wide area. Very soon this is followed by degenerative changes in the endothelial cells, those lying most superficially failing first and most. These undergo coagulation necrosis and become covered with fibrin, which is heaped up to form granulations at a point not far from the free edge of the valve, though not elsewhere as a rule. To this fibrin is added a layer of polymorphonuclear leukocytes, deposited by the passing intracardiac blood.

"Of the permanent results of rheumatic endocarditis the mitral lesions are the most frequent and characteristic. It is as correct to regard mitral stenosis as being always

rheumatic as it is to speak of tabes dorsalis as being without exception due to syphilis. The description of post-rheumatic fibrosis of the mitral valve is, therefore, that of mitral stenosis and vice versa. The cusps are thickened throughout, though most definitely so at, or near, the free edge. Accompanying the thickening there is a shortening so that the segments are drawn up towards the auricles, a position in which they are immovably fixed by the stiffening effect of the fibrosis. This fixation is further increased by the cicatricial changes in the chordæ tendinæ, which, arising at the same time and in the same way as in the valve segments, have progressed at the same rate as in the latter. At the same time the endocardial folds which pass over from the extremity of each cusp to the corresponding extremity of the other cusp have also shortened and thickened, so that the mitral channel is encroached upon in every direction.

"A word remains to be said as to the influence of one valvular lesion upon others. The only notable fact is that mitral stenosis, in the accurate sense of the word, is to some extent prevented by the coincidence of aortic regurgitation or pericardial adhesion. Mitral fibrosis is sure to be present in either case, if the aortic or pericardial lesion be of rheumatic origin, and it may be of extreme degree; but the effect of persistent ventricular over-distention is to hold the mitral ring open and to prevent narrowing, even in the presence of advanced valvular cicatrization.

"In the first decade 87.5 per cent of all rheumatic valvular lesions show active changes; in the second decade 75.8 per cent; in the third 43.4 per cent; in the fourth, 33.3 per cent; after the age of forty, 23.8 per cent; and taking all ages together 51.6 per cent.

"The incidence of rheumatic infection of the heart on the pericardium is illustrated by the following facts from the Bristol General Hospital post-mortem records:

"In patients dying in the first decade 100 per cent showed pericardial lesions; in the second, 83 per cent; in the third, 41.6 per cent; in the fourth 23 per cent; after the age of forty, 26 per cent; and taking all ages together 53 per cent."

The following tabulation of our cases has been made: as to sex, race, age-groups in decades; the next table shows the information received concerning the effects of first, second and third or more attacks, on the heart.

Total number of cases	100			
Male	64	White	Colored	Chinese
Female	36	93	6	1

Age Groups

	1-10	10-20	20-30	30-40	40-50	50-60	60-70
Male	4	16	17	16	5	4	3
Female	1	6	17	9	1	1	1

Effects on the Heart—First, Second or Third Attacks

First attacks	80	No apparent heart disturbance		56
		Heart disturbance		24
		Pericarditis	1	
		A2 accentuated	2	
		Mitral insufficiency and stenosis	2	
		Mitral stenosis	4	
		Mitral insufficiency	14	
		Heart block	1	
Second attacks	14	No apparent heart disturbance		3
		Heart disturbance		11
		Mitral insufficiency	1	
		Aortic and mitral insufficiency	1	
		Pulmonary systolic murmur	1	
		Mitral insufficiency and mitral stenosis	4	
		Auricular fibrillation	2	
Third attacks	6	No apparent heart disturbance		2
		Heart disturbance		4
		Mitral insufficiency	1	
		Auricular fibrillation	1	
		Mitral insufficiency and mitral stenosis	2	

Symptomatology: The usual onset in the cases observed is pain in the joints, commonly involving first the joints of the lower extremities, the ankles, then the knees, and rarely the hip joints. While the pain may be associated with only stiffness, in this particular series we have chosen only those cases which showed, as well, swelling (usually some redness) and increase in local temperature. A characteristic feature of the

joint infection is the tendency to move from one joint to another. Whenever this condition becomes localized for any considerable period of time, other conditions should be suspected, particularly gonorrheal arthritis and, occasionally, osteomyelitis, and, rarely, abscess formation around the joint. These various conditions are usually easily cleared up by X-ray examination and study of the history; and in general all joints persistently diseased should be subjected to X-ray examination. The blood-count is also an important feature of examination and observation. In some types of infection, there may be marked leukocytosis. The highest in our table is 23,700, this being accompanied by a high poly count. In one fatal case, we had a moderate leukocytosis, 11,120, but a poly count of 93%. An important practical point in this connection is that no patient should be discharged without having a blood-count run, which, if normal, should be subject to a recheck, at least within a period of thirty days. No patient should be discharged from a doctor's care for at least three months after the initial period of fever and joint manifestation. This was well illustrated in the case of L. D., who, after an initial febrile period lasting only three days and after a normal temperature for five days more, was discharged from the hospital, apparently free from symptoms, yet the blood count was still 12,400, but polys only 48 per cent. Within a short time, marked cardiac pathology was present. The usual onset is not associated with symptoms in other parts of the body. Occasionally, however, as in case of M.S., there was a certain amount of pulmonary involvement, evidently as attack of bronchitis. One of the cases, B. O., presented, as a first symptom, severe abdominal pain of short duration, which was repeated later in the day, at which time the left knee joint was also painful. Pain in the chest was also complained of early, being particularly manifest on deep inspiration. On the evening of the second day, he experienced considerable difficulty in getting breath while in a reclining position, this becoming more marked the next day. The night before entering the hospital, there was marked dyspnea. When first seen by me, he presented a well defined to-and-fro pericardial friction rub, the diagnosis being fibrinous pericarditis. Ten days later, the friction rub still persisted. Two days later, only a systolic rub was noted, and five days later, the heart sounds had become clear.

Cases of frank nephritis were not seen in this series, but signs of renal irritation were fairly common, forty of the cases showing albumin, in thirty cases only a trace, four X, four XX and two XXX.

The Wassermann tests run numbered 88, with 14 positive, which would probably be about the average for the type of patients we had under observation. Blood cultures were run in a number of cases, but we never secured any positive.

Our electrocardiographic results are as follows:

Patients cardiographed	20
Normal rhythm	16
First attack	12
Second attack	2
Third attack	2
Left axis deviation	
First attack	1
Low voltage in I and III	
Heart block—Partial	
First attack	1
Intraventricular	
First attack	1
Auricular fibrillation	
Second attack	1
Fifth attack	1

Treatment: This consisted of rest in bed and light diet, the drug therapy being sodium sal. 20 grains and sodium bicarbonate 40 grains every two hours. This treatment usually was continued through the first three days, with the temperature falling at the end of this time. Occasionally, the period of temperature elevation lasted a week. When the temperature did not drop within this period, it was customary for us to administer daily an ampoule containing 15 grains of sodium sal, which was given intravenously. We have also found the administration of sodium cacodylate to be followed by marked benefit, especially in the attacks in children, though we have also been successful with its use in adults. It has been given orally to children in doses of one grain three times a day and in proportionately larger doses for adults. This produced a distinctly garlicky odor to the breath, but we have never seen any case with definite arsenical toxic effect.

Tonsillectomies: Few of the cases studied had been tonsillectomized, only six prior to the acute attack, one after the first attack, and it was considered advisable to do a tonsillectomy on one case during the attack. This is rarely necessary and should only be

undertaken after mature consideration. One case under recent observation was definitely benefited by such a procedure, but we have at present under our care a patient with acute rheumatic fever, who had had previous attacks and whose present attack followed immediately upon tonsillectomy. However, we make it a rule to see that all cases are tonsillectomized at a reasonable period after the acute attack, the ordinary interval allowed being four weeks, in special cases a longer time being allowed to elapse.

Summary: Acute rheumatic fever is one of the chief causative agents of cardiac disease. This may not be apparent at the time of recession of joint symptoms, so that all patients need careful observation for at least three months following such an attack and six months periodical physical examinations thereafter.

Patients should not be discharged from the hospital unless the white blood count is normal.

All patients should be tonsillectomized at a reasonable period following the acute attack of rheumatic fever, if there is the least sign of tonsillar infection.

From our experience, we would conclude that immediate apparent effects of rheumatic fever are far less important than late results, which often cause marked valvular deformity, more common in the mitral, quite common in the aortic, and occasionally in the other valves.

(Thanks are due Miss Renaud, R.N., for assistance in gathering material.)

Note: The quotation beginning page 766 is from Rheumatic Heart Disease by Carey Coombs, M.D., F.R.C.P., London. William Wood and Company.

CARCINOMA OF THE LARYNX

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To those endowed with a practical sense of value comes the feeling that within the last decade research and clinical experimentation have brought forth certain measures which tend to control, if not actually eradicate, malignant disease of the larynx. In this particular field the laryngologists have advanced with striking rapidity. Carcinoma of the larynx with its one time 100 per cent mortality is no longer a reproach to laryngological surgery. We have learned the great importance of early recognition of malignant disease and the value of well directed surgical efforts. The application of this knowledge has reduced the mortality from an inevitably slow and painful death to something less than 5 per cent.

In the matter of etiology we are without scientific facts. We have long suspected that certain irritative stimuli such as chronic inflammatory changes, papillomata, granulomata and pyogenic ulcerations predispose to malignant degeneration. Within our own experience we have observed over a period of months or years the transition of a chronic laryngitis, a papilloma, or a chronic infective granuloma to a malignant lesion. To these predisposing or exciting factors the term "precancerous" has been applied. Obviously the term is a misnomer for there are no scientific facts which confer the privilege of assigning to these benign processes any of the characteristics even remotely akin to cancer. Though they may possess none of the histological manifestations of cancer, their predisposition to malignant change is frequently observed. The full recognition of this fact justifies the term "precancerous" since it not only warns of the intimate association of non-malignant and malignant disease, but emphasizes with force a truth so essential to early diagnosis and well directed treatment.

In this connection attention is called to the frequent occurrence of laryngeal cancer in individuals who practice faulty voice production. A review of our case histories reveals an amazing number of malignant lesions observed in the larynges of individuals who, for occupational or other reasons, habitually expose their vocal processes to the strain of overuse. In our series of 135 cases of proven cancer of the larynx, approximately 75 per cent occurred in public speakers, auctioneers, singers, teachers, preachers, salesmen, factory foremen, etc. That this class of patients had indulged in

overuse of the voice with its consequent abuse of the vocal apparatus over long periods of time appeared an outstanding feature in their histories.

It is my own conviction that continued strain of the larynx with its subsequent edematous and hyperemic changes in the vocal cords and laryngeal ventricles, is in no small measure a predisposing influence to the onset of malignancy, in individuals who have attained the cancer age.

That a chronic laryngitis secondary to upper respiratory infections, diseased tonsils, carious teeth, and chronic accessory sinusitis may predispose to laryngeal cancer is perhaps an assertion widely exposed to ethical differences of opinion. Nevertheless, we know from experience that a chronic laryngitis may eventuate in a laryngeal papilloma and that the latter has been observed to undergo malignant degeneration.

In the past four years, we have had under observation a man, aged 52, a lawyer by profession, who presented during his many visits to the clinic the characteristic findings of a chronic laryngitis. The clinical picture was constantly that of a benign process in both vocal cords until recently there appeared a papillomatous vegetation which revealed the early changes of malignant degeneration. For ten years his only symptom was hoarseness. Undue strain of the vocal cords consequent upon retarded function resulting from a chronic inflammatory process and the exigencies of his profession were in my opinion contributing factors in the development of a laryngeal cancer.

Of unusual interest, too, is a second patient, a male, age 38, who was frequently seen over a period of four years on account of a vegetative papilloma of the left vocal cord. The clinical features of his larynx were characteristically those of a benign lesion. Microscopical examination of many specimens of tissue continued to confirm this suspicion. Within the past year there appeared a sizeable mass in the left laryngeal ventricle. The extirpated larynx revealed a rapidly proliferating carcinoma involving nearly the entire half of the larynx.

Is there not then some justification for the opinion that there are a variety of conditions developing within the larynx which might be termed precancerous? Admitting that there is no scientific basis for such an assumption, does it not emphatically signify a truth which warns of the dangers of laryngeal irritation and calls for more diligent efforts on our part to dispose of those stimuli which are potential factors in the development of cancer?

No one can doubt the influence of lues upon malignant disease of the larynx. Many writers bear witness to the fact that cancer and gummata are closely associated allies. This is particularly true when the tertiary lesion of syphilis is permitted to run an uninterrupted course through failure to administer anti-luetic treatment. The behavior of luetic lesions as precancerous states is not definitely understood. Coplin gives a most logical explanation for this phenomenon and one that seems to describe adequately the relation of syphilis to cancer as it appears in our own clinical observations. It is his impression that there is no specific connection between lues and malignant disease but that the former liberates toxic substances which irritate the larynx, "frustrate repair and lead to a lawless cellular proliferation." It is a noteworthy fact that wherever there is a lesion which manifests the combined properties of destruction and constructive growth there obtains by the same token the elements which favor the wild proliferation of cells into neoplastic infiltration.

Assuming that the foregoing observations in respect to precancerous conditions can be logically accepted, what if any lessons of value have been added to our knowledge of prevention and treatment? The answer seems perfectly clear. The presence of papillomata and keratosis calls for surgical measures sufficiently formidable to dispose of them for all time. Tertiary lues of the larynx demands early recognition, and the prompt administration of antisyphilitic treatment. There is no type of lesion that lends itself more satisfactorily to complete eradication than gumma of the larynx when promptly recognized and adequately treated. The upper respiratory infections, infected tonsils, carious teeth, and chronic accessory sinus disease contributory to a chronic laryngitis should be properly eliminated.

If asked to limit laryngological therapeutics to but a single measure I would choose laryngeal rest to the complete exclusion of all other forms of treatment. There is no treatment so beneficial to chronic laryngitis, pyogenic ulcerations, and areas of

laryngeal edema as absolute rest of the larynx. By this is meant complete silence for a period of weeks or even months. The strict enforcement of this rule does not even permit the use of the whispered voice. It is demanded of the patient that he carry on all communications by signs or writing.

Time and again we have watched a nonspecific ulcer, a small nodule or a hyperemic area of thickened mucosa gradually shrink and finally disappear under strict vocal rest. No other therapeutic measure seems to be quite so effective.

My own personal experience with intralaryngeal medication has been decidedly disappointing. We are not yet convinced that any of the mild antiseptic solutions have a real therapeutic value and have already reached the conviction that the chemical cauterizing agents which have enjoyed some popularity in laryngeal medication are not only ineffectual but greatly add to the irritation; the very thing that we are endeavoring to eliminate.

The age incidence is similar to that of carcinomata occurring in other parts of the body. It is more common after the age of 40. In our series 75 per cent occurred between ages of 50 and 65. The youngest patient was 22 and the oldest 84.

We have often asked the question, Is not malignant disease becoming increasingly prevalent? The records of our clinic show a registration of a greater number of malignant cases each year. At a glance one might say that the normal growth of the clinic and the widespread publicity that has been given cancer through Public Health Departments and the innumerable societies for the control of cancer are responsible for the increasing number of registrations. To this we would agree were it not for the fact that we are seeing more and more younger patients between the ages of 20 and 30 with malignant disease of the upper respiratory passages. This observation which has been striking in our experience may properly give rise to the suspicion that cancer is becoming increasingly common.

From the standpoint of sex incidence it is a noteworthy fact that of the 135 cases studied, malignant disease of the larynx was observed in but 19 females. In our experience laryngeal carcinoma has been about seven times as prevalent in men as in women.

The onset of cancer of the larynx is insidious and except for hoarseness which often causes little or no alarm is almost invariably without other symptoms. Its presence depends upon the location and extent of the lesion. A new growth involving the supra- or infraglottic regions may attain considerable size before arousing suspicion that the larynx is the seat of malignant disease. When hoarseness does appear, its insidious development and common occurrence in practically all forms of laryngeal disease gives but little warning of the serious nature of the lesion present.

A review of our case records reveals in a striking manner the apparent trivial interest that is manifested in the initial symptom —hoarseness. Eighty-five per cent of the patients came for examination six months or more after the appearance of an altered voice. Fifteen per cent sought advice in the fourth or fifth month of their illness but in not a single instance could we discover that the patient had consulted a laryngologist until more than two months had elapsed since the onset of laryngeal symptoms. It is obvious therefore that in rapidly proliferating neoplasms of the larynx the lesion has already assumed serious proportions when the first laryngoscopic examination is made.

But what is still more discouraging is the fact that less than 50 per cent of the patients who have appeared at the clinic with operable cancer of the larynx, remain or return to accept the surgical recommendations which have been made. At first this appeared to be a sad commentary on our ability to inspire confidence so we set out to disprove or confirm this supposition. A careful check of fifteen patients registered in the clinic with proven carcinoma of the larynx who had disappeared and failed to return after laryngectomy had been advised, disclosed the astonishing fact that in not a single instance did the patient consult another surgeon. Many of this unfortunate group seeking conservative measures had placed their confidence in radiant energy or widely advertised serums only to despair in the late stages of malignant disease.

Later interviews with the relatives and friends of several of these unfortunate victims brought forth the assertion that their family physicians to whom these patients had returned were alleged to have advised against radical surgical measures. Some

truth, we believe, can be ascribed to this statement, for we are convinced that the general medical profession is not fully aware of the value of laryngectomy and laryngofissure in malignant disease of the larynx. Patients upon whom the operations have been performed remain employed in their various occupations and with few exceptions continue to serve as useful citizens for many years.

Pain referred to the pharynx or ear occurred only in those cases where a mass of considerable size with edema and infiltration of the surrounding tissues was discovered. Purulent and blood stained expectoration, dyspnea and dysphagia appeared as late symptoms of the disease. Sixty per cent of our series presented a number of latter symptoms; evidence that they were in extremis and beyond surgical relief.

Metastasis occurred as a late development in the cases studied. Only 12 per cent revealed palpable cervical glands which were considered clinical evidence of metastasis. Radiographs of the chest were taken in 10 cases where it was believed that metastasis had taken place, on account of the patient's extreme condition, but in only two instances were pulmonary carcinomas found. Six autopsies were performed. Three patients died of bronchopneumonia and lung abscess and were free from metastasis. One showed metastasis to the deep cervical lymph nodes of the anterior chain and in another case both the cervical glands and the lungs were the seat of malignant invasion. One postmortem revealed a malignancy of the prostate gland as well as of the larynx, but microscopical examination of the new growths demonstrated that the neoplasm in the prostate was a primary adenocarcinoma, while that of the larynx was a primary squamous cell carcinoma, each developing independently of the other. Clinical observations as well as postmortem examination would seem to substantiate the opinion that metastasis is usually a late development in the course of malignant neoplasms of the larynx. If this is true the urgent need of the day is an early diagnosis and a surgical technic that will completely dispose of the primary focus.

In my series of thirty-six patients now living and well following total extirpation of the larynx, not a single individual has expressed a desire to die rather than live a speechless life. These patients appear for frequent observation and the wonderful morale which they exhibit is a striking feature of their lives. In my experience with patients who have had radical laryngeal operations, the only evidence of despair that I have observed has emanated from the family doctor, who sometimes accompanies the patient on his visit to the hospital. This remark is not made with facetious intent. It is simply prompted by the conviction that many of our profession are thoroughly unfamiliar with the results of laryngectomy and the sociological aspects surrounding the patient who is living without a larynx. It is not generally understood that there is probably no organ in the body affected by malignant disease that lends itself so satisfactorily to surgical treatment as does the larynx. Through rapid perfection in operative technic, the mortality has been reduced from 100 per cent to approximately 3 per cent. With few exceptions, the patients rapidly acquire a distinctly audible whisper through forcible movements of the tongue and lips. Their expectancy of life is indefinite and their vocations many and useful. To concede that radical laryngeal operations have a place of merit in our surgical armamentarium is to admit that the patients at least have the right to a thorough understanding of the facts, and the privilege to make their own choice between inevitable death on the one hand and a voiceless existence on the other. To deny this fact is, I believe, a definite reproach to our methods of practice.

The diagnosis of laryngeal cancer is not always simple. It is not infrequently mistaken for other ulcerative processes within the larynx, notably tuberculosis and syphilis, although a thorough clinical study of the case in question usually reveals the true identity of the lesion.

In this connection there is one point concerning which I wish to be emphatic. I am unreservedly opposed to performing a radical operation upon the larynx in the absence of a pathological diagnosis. No doubt there are expert laryngologists who merit the assurance that they can depend entirely upon laryngoscopic examination for a correct diagnosis of the lesion in question but to me this practice is fraught with unnecessary hazards. To be sure there is a wealth of scientific evidence to prove that a malignant neoplasm once disturbed is prone to proliferate with increasing rapidity, but to

assume that this behavior is an uncontrollable one within the larynx is, I believe, a much overrated supposition. The time required for a pathological diagnosis does not usually exceed twenty-four hours, and it is doubtful that laryngeal neoplasms which ordinarily metastasize late in their development are influenced beyond control during the lapse of one day. It goes without saying, however, that complete preparation for operation should be made in order to avoid unnecessary delay following biopsy.

In relating one of my early experiences, the value of microscopical study in lesions of the larynx appears obvious. A male, age 42, appeared at the clinic 13 years ago on account of hoarseness and a pain radiating into his left ear. Examination revealed a large indurated mass occupying the left half of the larynx. A tentative diagnosis of cancer was made and the members of the staff were in full accord. The patient refused a biopsy. He has been seen in the clinic semiannually for the past 13 years and there have been no visible changes in the character or the extent of the lesion since the day of his first visit. He continues daily to follow his vocation and appears to be enjoying the best of health. In this experience, and in several others the hazards attending a clinical diagnosis not confirmed by histological studies have been truly emphasized.

It must be remembered, too, that a pathological examination does not always clear the diagnosis. When the tissue submitted includes only the superficial parts of the lesion and fails to contain its mucous membrane attachment the pathologists may find only histological evidence of a papilloma and report no signs of cancer present. In the writer's experience this error has occurred often enough to convince him that a negative report from the pathologist does not relieve the laryngologist of further responsibility in the case. The presence of suspicious clinical signs of malignancy should serve to leave the diagnosis an unsolved problem deserving of further study. A piece of tissue taken from the periphery of the lesion which includes its attachment to mucous membrane is likely to reveal under the microscope the true nature of the new growth.

TREATMENT

In the treatment of cancer of the larynx there is probably one premise to which laryngologists will agree, namely, that cancer without metastasis is controlled for an indefinite time or possibly cured when the primary lesion is entirely removed. If this is an accepted opinion, then how may such be accomplished? Of the available methods of treatment which one will we employ? The answer to this question is entirely dependent upon the character of the lesion in question. Is it a large fungoid mass deeply infiltrating the submucosa and pericondrium, or is it a small circumscribed lesion definitely limited to the superficial tissues and not advancing into the deeper structures of the larynx. Is it distinctly visible on or above the vocal cords or is it situated in the subglottic region more or less indistinct in the reflected image of the larynx in the mirror? These are some of the very obvious questions which necessarily confront the laryngologist when he is to pass judgment on the method of attack.

Laryngeal cancer may occasionally assume the character of an epithelioma similar to that found on the skin of the face or other cutaneous surfaces of the body. It may be of small proportions, slow growing, definitely limited to the superficial tissues and free from extensive infiltration. When such a lesion exists and is readily accessible from above, it is reasonable to assume that it may be successfully eradicated by direct or indirect laryngoscopy with biting forceps and cautery. It must be remembered that the indirected images of lesions viewed in the laryngoscopic mirror are usually much smaller than the actual lesion itself. The examination of the extirpated larynx frequently reveals a new growth one-third to one-half times larger than that seen as a reflected image in the mirror. A full appreciation of this fact is obviously important in selecting the surgical method of attack.

Most of us can bear witness to the fact that small malignant lesions of the larynx have been successfully destroyed in a few instances with laryngeal forceps and cautery by direct or indirect laryngoscopy. When the diagnosis is made early and the lesion is small and definitely confined to the superficial tissues, it is reasonable to expect that the biting forceps, cautery, diathermy, one or all of them, may occasionally destroy the entire new growth and render a cure. But how are we to know when we are dealing with such a lesion? This is the all-important question and one frequently difficult to an-

swer. Here again, I believe, we must return to the methodical methods of practice and rely entirely upon the clinical behavior of the neoplasm to determine whether or not radical or conservative interference is necessary. Little can be gained from a microscopical study of cell type. If the pathologist can give us information referable to the extent of infiltration his report is of much value but to place great confidence in an analysis of cell type may lead to an error in judgment. Repeated observations and a careful study of clinical behavior is in the writer's opinion the most important guide in the selection of operation.

In our experience, X-ray and radium treatment of laryngeal cancer has been very discouraging. It has a devastating effect upon cartilage and in several instances we have observed an extensive sloughing of the entire larynx. The latter appears to be engulfed in a mass of exuberant granulations which when converted into fibrous connective tissue forms a complete stenosis. When such a process does occur the larynx is rendered a non-functioning organ and the surgeon left with no assurance whatsoever that the maligant process has been placed under control. Moreover, the destructive effect of radiant energy upon the blood vessels which supply the larynx and the surrounding tissues is invariably a great source of annoyance to the surgeon. Patients thus treated are usually poor risks for operation. Their tissues heal slowly or not at all, and, if fortunate enough to survive the surgical insult, the painful and protracted convalescence which they have suffered leaves them physically exhausted and financially depleted.

Once satisfied that we are dealing with a laryngeal neoplasm that demands radical surgical interference we have at our disposal the choice of two procedures, thyrotomy, with submucous resection of the tissue involved, or laryngectomy. While the former operation has the enthusiastic support of several laryngologists it cannot be accepted without reservation.

Thyrotomy or laryngofissure is an operation commonly recommended for those cases of laryngeal cancer in which not more than the anterior one-half of one vocal cord is involved. It is not a precedure of choice when the arytenoid region or the posterior extremity of the cord is the site of the lesion. Neither is it employed when opposing cord surfaces are affected or when the infiltration has extended into the anterior commissure. No doubt, small superficial lesions definitely limited to the anterior one-half of one vocal cord and not infiltrating the pericondrium can be successfully removed by this method. Though laryngofissure saves the voice and permits of normal breathing through the upper air passages, the number of recurrences is greater than following total removal of the larynx. One has only to study a microscopical section of a rapidly proliferating cancer of the larynx with its far reaching invasion of pericondrium to understand the difficulties often attending an attempt to destroy every vestige of cancer by removing but one-half of the larynx. Once thyrotomy has been utilized, total laryngectomy in the advent of a recurrence is seldom possible. Given these warnings it would seem less speculative and more in keeping with good judgment to completely extirpate the larynx in those cases where there is clinical or pathological evidence that the neoplasm has invaded the deeper structures. By such a method alone can the surgeon have reasonable assurance that every ramification of the new growth has been removed.

The most important contraindication to laryngectomy is malignant metastasis. Several laryngologists have emphasized with force the crying need of careful metabolic estimations, functional tests of the kidneys, cardio-vascular examinations, etc., and in the face of abnormal findings have advised against the laryngectomy. It is obviously unwise to operate upon the patient who is so nutritionally impoverished or constitutionally undermined that the mere administration of an anesthetic is a grave risk to his life, but too much importance must not be given to those constitutional diseases which are so frequently the more or less normal effects of advancing years. The general surgeon does not expect all of his gall-bladder and prostate patients to have normal cardio-vascular-renal systems and metabolic rates, neither should the laryngologist insist upon such ideal conditions when dealing with so grave a malady as laryngeal cancer. When the patient's condition will tolerate any major surgical insult he is by the same token a good risk for laryngectomy.

Prior to operation the patient is thoroughly digitalized. In this we are particular to follow the rule of administering 25 to 30

mgs. of digitalis folia per kilo of body weight. Since the average patient eliminates the drug at the rate of 100 mgs. daily beginning the first day of administration, we continue after digitalization to give the maintenance dose of 100 mgs. daily for an indefinite time.

Too much emphasis cannot be laid on the importance of careful postoperative attention. Preparation is made to combat shock and the patient is placed in bed, with lower extremities elevated and shoulders lowered for the first 24 hours after operation. The second day less elevation is maintained and as soon as possible the patient is raised into a semi-reclining posture and encouraged to change his position frequently.

Every possible care should be taken to prevent the drainage of secretions into the trachea. Two special nurses trained in tracheal work are in attendance with a suction apparatus available and every inspiration is guarded against the possible introducton of discharges into the lower air passages. Narcotics are withheld in order that nothing may interfere with the normal protective reflexes of the trachea.

The dressings wrung out in iodoform emulsion are changed every three or four hours. The tracheal cannula is wound in conical form with bismuth subnitrate paste tape and firmly introduced into the trachea that secretions may not drain along the walls of the tube into the lower air passages.

The patient is fed through a rubber catheter, introduced into the esophagus through the nose, and every effort is made to keep his nutritional requirements adequately fulfilled.

ANESTHESIA IN HEAD AND NECK SURGERY: VARIOUS TYPES AND METHODS

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The basic principles of anesthesia in surgery of the head and neck are not different from those in surgery of other parts of the body. The same anesthetic agents, or combination of anesthetic agents are employed, as in general surgery. The anesthetist must use the same care in the preoperative study of the patient, and in the selection from his armamentarium of anesthetic agents, the drug, or combination of drugs, which in his judgment would produce the most satisfactory anesthesia with the least possible amount of damage to the tissues of the case in question, as in general surgery.

It is necessary, however, in many cases of surgery of the head and neck to employ a technic which will allow the maintenance of the anesthesia to continue without interference by the anesthetist with the field of surgery, or with the operator.

In many phases of head surgery where the face is covered with sterile draperies, the anesthetist will have to judge the degree of the anesthesia and the condition of the patient by observing the respiratory excursions, color of the blood in the surgical field, character of the pulse at the wrist, color of the hands and finger nails, and by the reading of blood pressure at frequent intervals. If an eye is exposed, the anesthetist may request the surgeon to raise the lid or he may use a sterile applicator and raise the lid himself, and thus observe the eyeball and pupil.

ANESTHETIC AGENTS

The anesthetic agents used are ether, nitrous oxide and oxygen, ethylene, ethyl chloride, tribromethyl alcohol or avertin, and sodium iso-amyl-barbiturate or sodium amytal. Ether may be used in the open mask drop method where the mask does not interfere, or by the closed method as per Ben Morgan apparatus or as ether vapor as per motor or compressed air method or by intratracheal insufflation.

Ether drop method needs no description.

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Ether closed method.—The closed method we are using at Blodgett Hospital is by means of the Ben Morgan apparatus. With this apparatus N_2O-O or N_2O-CO_2 or Ethylene-O, Ether sequence can be used, thus avoiding the unpleasant sensations of induction produced by ether alone, and a surgical anesthesia may be induced in a period of about five minutes. The carbon dioxide gas which accumulates in the rebreathing bag may be filtered out by means of the attached drum filled with soda lime, which reduces the increased respiration necessarily produced by rebreathing. Oxygen, CO_2, N_2O, cylinders are attached to the apparatus and any of these gases can be utilized during the anesthesia if required. By means of this method the face mask may be used, but in cases where a mask would interfere with the surgery a Buchanan rubber air-way is inserted in the mouth reaching to the pharynx. The mouth is then thoroughly packed with strips of gauze around the air-way, compelling the greater part of the inspired and expired air to pass through the airway. This airway is attached to the Ben Morgan apparatus, thus permitting the anesthesic to be administered without interference with the surgical field. We find this method very satisfactory in cases where a face mask cannot be used.

Ether vapor, by means of an ether hook, is employed in operations in the mouth, as in tonsillectomies, or by means of a catheter which may be inserted into the pharynx through the nose. A second catheter may be inserted through the other nostril, thus allowing free ventilation, as exhalation may be obstructed by the dropping back of the tongue or by the tongue being pushed back by the surgeon, as in cleft palate operations.

Intratracheal insufflation. — The intratracheal method of ether anesthesia may be substituted for the intrapharyngeal technic. This method, I believe, is a splendid technic in many cases of surgery of the head and neck, and assures perfect ventilation, complete freedom of interference by the anesthetist in most operative procedures of the head. It requires considerable experience to be able to visualize the larynx by means of an electric laryngoscope and to introduce the catheter into the trachea. The lower jaw must be thoroughly relaxed and absence of spasm of the larynx is desirable. The use of open end varnished silk woven laryngeal catheters, varying in size from Nos. 16 to 32 F, depending upon the age of the patient, are preferable to ordinary closed tip catheters, or the Flagg flexible metal intratracheal tubes may be used. The catheter is inserted about 22 cm. from the teeth in an adult, and a shorter distance in younger subjects. Ether vapor may be introduced into the catheter by means of compressed air flowing through an ether bottle, or by means of the Flagg method which we are using. This method consists of an empty 8 oz. ether can in the top of which 4 or 5 one-half inch perforations are made, and one end of a large calibered rubber tube is fitted over the neck of the ether can and the other end of the tube is attached to the intratracheal tube. About two ounces of ether is placed in the ether can; the patient exhales into the ether can and inhales ether-laden air. If a more profound anesthesia is desired, agitation of the ether can will increase the ether content of the inspired air. If a lighter degree of anesthesia is desired the tube is detached from the intratracheal catheter, thus withdrawing the inhalation of ether until the depth of anesthesia is reduced to the degree required. If there is a collection of mucus in the intratracheal tube, a small catheter is inserted into the intratracheal tube and the mucus aspirated.

Nitrous oxide oxygen gas. — Nitrous oxide oxygen gas can be employed in most cases where a face mask can be used. In tonsillectomies and in oral surgery a nasal inhaler is used. In intra-nasal operations a mouth inhaler is used.

Ethylene gas.—This gas we have discontinued on account of its explosive possibilities.

Ethyl chloride.—Ethyl chloride must be used with the greatest precaution. It is useful in children in very short operations as in paracentesis of the ear drum, or opening an abscess, or as an ethyl chloride ether sequence.

Sodium amytal.—The first preliminary report on the use of sodium amytal to produce general anesthesia was made by Zerface and McCallum, of Indianapolis, in 1929. It has since been used by many men throughout the country, and was received with a great deal of enthusiasm. This enthusiasm has now somewhat abated for the reason that several unpleasant sequelæ have been observed during and following its use. A marked drop of both systolic and diastolic

blood pressure has almost universally been found during its administration. The drop in systolic pressure varied from 30 or 35 mm. to 150 mm. of mercury, the greatest drop in systolic pressure occurring in the hypertension cases; the blood pressure, however, recovers partially during the surgery. There is also a depression of the respiratory center, as it is frequently observed that the respirations become slower, and this depression may continue for several hours during the sleeping period following the surgery, which necessitates careful watching of the patient during this period. The patient exhibits more or less restlessness upon recovery from the sleep, which restlessness is very undesirable in the immediate postoperative state in many surgical proceedings. This restlessness may be controlled by the use of morphine.

Sodium amytal must not be considered as a complete anesthetic agent. Supplemental anesthesia is necessary in the majority of cases, although the amount is very much reduced. The oxygen content in the supplemental nitrous oxide or ethylene may be increased to 25 and sometimes 50 per cent, and the amount of ether used as a supplemental anesthesia is greatly reduced. It has the advantage that the anesthetic may be administered in the room, in the nervous type of patient, thus allaying the fear of the anesthetic and of the removal to the operating room, and simplifies the administration of the general anesthetic. It is administered intravenously in 10 per cent solution and is given at the rate of 1 c.c. per minute. The patient is carefully observed as to the approach of sleep, which frequently comes on after 3 to 5 c.c. of the solution have been injected. The blood pressure is carefully watched and when the fall in pressure becomes great the injection must be stopped. The usual dose varies from 10 to 15 grs. and never should exceed 22 grs. The drop in blood pressure may be combated by the use of adrenalin, ephedrin, or caffeine sodium benzoate. It should not be used in cases with a low blood pressure.

A local anesthetic may supplement sodium amytal, and the toxic effects of the local anesthetic, which are sometimes observed, are neutralized by the sodium amytal, although Emge and Hoffman[2] have observed restlessness following injections of novocaine in amytal cases, which they believe is due to the antagonistic action of the two drugs.

Tribromethylalcohol. — Tribromethylalcohol, with the trade name of avertin, was first presented before the Berlin Surgical Society in 1925, by Butzengeiger,[3] and was introduced into this country by Joseph R. Gutman, of Chicago. Over 250,000 cases of its use have been reported in the literature. Tribromethylalcohol must also not be considered as a complete anesthetic agent. It is given rectally in 3 per cent solutions. It is presented by the manufacturer as avertin fluid, 1 c.c. of which contains 1 gram of the drug. The dose recommended for basal anesthesia is 0.1 c.c. of avertin fluid for every kilo, or 2.2 pounds, of body weight.

The manufacturer supplies a dosage and weight table from which may be ascertained the dose required for a given weight, and the amount of water required to make the 3 per cent solution. The patient must be weighed previous to the injection, and a cleansing enema must be given the night before, or several hours proceding the operation, so that the anesthetic solution will not be diluted by the fluid in the bowel. Great care must be taken in the preparation of the solution; the temperature of the water should not be below 95 degrees F. or above 104 degrees F. The required amount of distilled water at the proper temperature, with the avertin solution added, is placed in a flask and is thoroughly agitated until the avertin fluid has been thoroughly dissolved in the water. It is necessary to test this solution for decomposition as crystallization of the drug may take place when the temperature of the water is lower than 95 degrees Fahrenheit. When the temperature of the water is above 104 degrees F., hydrobromic acid and dibromacetaldehyde are formed, which have a marked irritating action upon the intestinal mucosa. The mixture is therefore tested for decomposition by taking a few cubic centimeters of the mixture and adding two drops of a congo red solution; if the solution with the congo red added is of an orange color no decomposition has taken place, but if it turns a blue or violet color decomposition has taken place and therefore it must not be used. It is necessary to inject the solution immediately after its preparation and not allow it to cool. It is injected into the rectum very slowly by means of a catheter and funnel, allowing about five

minutes for its injection. About the time the injection is completed, the patient will show signs of drowsiness and in 10 to 15 minutes is profoundly asleep. The respiratory center is depressed and respirations become somewhat slower and shallower. It is necessary to assure free pulmonary ventilation at all times as an obstruction to respiration may be caused by relaxation of the pharyngeal muscles and the tongue dropping into the pharynx. This can be accomplished by the introduction of an airway. There is some depression of blood pressure, usually 10 mm. to 30 mm. of mercury.

Supplemental anesthesia is induced by means of nitrous oxide and oxygen, allowing usually 25 to 50 per cent of oxygen, or a very light ether anesthetic. The narcosis lasts from one to two hours, and the patient awakens without restlessness and goes into a secondary sleep which continues for several hours following the first recovery. A local anesthetic may be combined with the avertin anesthesia. I believe that most operations on the head and neck may be performed with this method. Avertin has all the advantages of sodium amytal without its disadvantages. It must not be used in cases where there is an obstruction to respiration as in tumors pressing upon the trachea or in ulceration of colon or rectum. It is eliminated by the kidney and therefore in severe cases of nephritis it may be contraindicated.

SURGERY OF THE NECK

Among the principal operations performed upon the neck are thyroidectomy, block dissection, plastic operation for scar contractions, tracheotomy and laryngectomy.

In the simple thyroidectomies, such as enucleation of the thyroid glands in nontoxic adenomas, nitrous oxide or ether anesthesia per mask, or tribromethylalcohol, may be employed.

In the toxic thyroids greater care must be exercised in the administration of the anesthetics. The coöperation of the surgeon, the internist and the anesthetist is desirable. All cases of decompensated hearts should have the preliminary rest and digitalis to bring about compensation before surgery. All toxic cases should be prepared preoperatively by the use of iodine and rest. Many of these patients who are extremely nervous show a rapid heart and evidence of fibrillation. In some of these cases after careful preparation a pulse rate of 150 or over may continue after surgical anesthesia has been induced. In such a condition it may be wise for the surgeon to be content with a simple tying of the superior thyroid vessels, or with the removal of one gland and delay the removal of the other gland to some later date. These operations may be done under ether, nitrous oxide or tribromethylalcohol anesthesia.

Some of these toxic thyroid patients are extremely nervous, apprehensive and have a fear of the anesthetic and of the operation. In such cases these patients may be relieved by administering the anesthesia in the room after a preliminary quieting dose of morphin. Tribromethylalcohol would be the anesthetic of my choice, which may be given as a sham enema, so that the patient will have no knowledge of leaving the room or of the operation until several hours after returning to the room.

Some surgeons require light anesthesia in thyroidectomies in order that phonation may be present to ascertain injury to the recurrent laryngeal nerve, and coughing or retching may be induced by mechanical irritation of the pharynx, to ascertain bleeding points. When the pressure of the thyroid gland upon the trachea has been sufficient to produce softening or absorption of the tracheal rings, intratracheal anesthesia or the introduction of the intratracheal tube when collapse occurs is beneficial.

A sterile towel twice folded lengthwise placed around the chin of the patient with the open folds upward allows the anesthetist to place his hand between the open folds of the towel so that he may hold the mask and jaw without contaminating the operating field.

In block dissections of the neck, intratracheal or intrapharyngeal methods may be employed or tribromethylalcohol may be used per rectum. The same methods of anesthesia are satisfactory in plastic surgery for scar contractions of the neck.

Tracheotomy.—In my opinion the best anesthetic in tracheotomy is nitrous oxide oxygen. There is usually a marked cyanosis present due to a respiratory obstruction. Nitrous oxide plus a large per cent of oxygen, or pure oxygen under pressure, will restore the color.

The anesthetic of my choice in laryngectomies would be nitrous oxide oxygen or

ether until the larynx is opened and after the larynx has been opened an intratracheal tube is inserted into the trachea and ether anesthetic continued through the intratracheal tube or the rectal use of tribromethylalcohol

OPERATIONS OF THE HEAD

Tonsillectomies. — Either ether or gas may be employed. In ether anesthesia the patient is well anesthetized by means of the ether mask, after which the ether hook is substituted and the anesthesia continued in this manner. When tonsillectomies are performed under nitrous oxide anesthesia the nasal mask is applied with exhalation valve open, a mouth prop is inserted between the teeth and a wet towel, a piece of rubber tissue or a rubber cup is placed over the mouth which prevents the patient from breathing air through the mouth. When the patient is properly anesthetized, the covering from the mouth is removed, the exhalation valve is closed, and the pressure of the gases is increased so that the anesthesia may be of sufficient depth to produce an automatic breathing without expiratory holding. Ether may be added to the nitrous oxide if the gas anesthesia is not satisfactory or sufficient.

In all cases of tonsillectomies the throat must be thoroughly aspirated to prevent aspiration of blood. This is particularly true when the operation is performed in the sitting posture. It is desirable to have a cough reflex present during the surgery, as the properly anesthetized patient ordinarily will not cough unless blood enters the trachea, which cough will expel any blood that may enter the trachea. Some surgeons prefer to have no cough reflex present and in such an event thorough aspiration is required at all times. It is my opinion that aspiration of blood into the lung may occur post-operatively as well as during the operation, therefore it is important that the patient lie on his side when placed upon stretcher and bed to facilitate free drainage.

In the modified Killian tonsillectomy position, the body of the patient is inclined forward so that the blood will flow away from the pharynx and out of the mouth. This position is ideal from the patient's standpoint, but it is an uncomfortable one for the surgeon as it is necessary for him to use a low stool or to incline on his knees to perform the operation.

Extractions of teeth and operations of the jaw may be performed under nitrous oxide and oxygen gas.

In mastoidectomies, either simple or radical, nitrous oxide oxygen, ether open drop method or tribromethylalcohol may be employed. It is well for the anesthetist to watch the face for any muscle contractions which may develop while the surgeon is operating in proximity to the facial nerve.

In rhinoplasties and sinus operations, such as radical frontal, sphenoid, ethmoid and antrum operations, either intratracheal or intrapharyngeal ether, or tribromethylalcohol may be employed.

Brain tumor.—When we are asked to anesthetize a patient with brain tumor, we always know we are dealing with a hazardous case. Since the increased intracranial pressure interferes with the centers of respiration and circulation, we must be prepared to meet any emergencies as they may arise. It is best not to administer any preoperative narcotic as the respiratory center may become still more depressed. The use of atropin alone as a preoperative medication is sufficient to overcome the irritative action of ether on the air passages. Ether administered either by the intrapharyngeal or intratracheal route is the anesthetic of my choice. The anesthetist will have to be removed from the field of surgery. The blood pressure readings should be taken frequently. The mental state of the patient is usually at a low level and, if the intratracheal method is used, very little anesthetic is required after the introduction of the intratracheal tube. A slow pulse and an elevation of blood pressure may be present due to an increased intracranial pressure. After the lifting of the bone flap the intracranial pressure is partially relieved and the pulse rate will increase in rapidity and the blood pressure drop. This is particularly true when the dura is opened. In cases where the intracranial pressure has been considerably increased, there may follow a marked drop in blood pressure and the pulse become rapid and small. This is due to the sudden removal of the intracranial pressure. In event that this occurs, it is of benefit to request the surgeon to put pressure on the brain in sufficient amount to partially restore the intracranial pressure, which may have a beneficial effect upon the lowered blood pressure.

Pre-anesthetic adjuncts.—These are given as in general surgery.

In young children, atropine alone is used in ether cases. In older children codeine and atropine, or small doses of morphine and atropine.

In adult cases 1/6 gr. to 1/4 gr. of morphine and 1/150 gr. of atropine, or morphine 1/6 gr. to 1/4 gr., and hyoscine 1/150 gr. is given. These adjuncts should be administered 45 minutes to one hour before surgery. Tribromethylalcohol is usually preceded by 1/6 to 1/4 gr. of morphine and atropine 1/150 gr.

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SIGNIFICANCE OF CARDIAC PAIN

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Pain is a most difficult word to define. Specific in its meaning, it depends primarily on subjective interpretation. The reaction of the individual to discomfort produced by pain makes it a relative term that varies with its quality, degree, and character. Pain developed on bodily surfaces is more readily interpreted than pain springing from tissues within the body. The former arises from direct irritation of afferent central nervous system fibers; it is more readily localized. The latter developing through connections of the sympathetic system is often more difficult to understand; it is associated with greater areas and may be widely diffused. In this discussion we are concerned with pain arising in the deeper tissues, chiefly with that form developing in a body viscus, the heart. Cardiac pain, as is well known, defies accurate description. Heberden originally spoke of it as "An intense substernal discomfort accompanied by a sense of strangling." He believed it to be a "cramp of the heart muscle." Albutt says, "Let us remember that . . . it is the horror, not of a crushed thorax, not of the bottomless pit, but of the garotte."

Sutton and Leuth have recently investigated cardiac pain. Their work in animals constitutes the most definite study that has been done on the subject. Harvey, Haller, Lannander, Meltzer, McKenzie, Sherrington and others have shown that the viscera are themselves insensitive to pain. How pain may arise from a viscus has been described by Langley. Sutton and Lueth have gone farther and actually produced pain in varying degrees experimentally. The site of origin, all of the pathways of transmission, and the radiation, remain to be solved. Yet a great step forward has been taken toward the interpretation of cardiac pain.

Let us first understand that the endorcardium, myocardium, visceral pericardium and the great vessels arising from the heart are insensitive to pain. Sutton and Lueth have shown experimentally that narrowing, up to occlusion of the coronary vessels producing heart muscle ischemia, up to infarction, causes cardiac pain. This is in direct substantiation of clinical pathologic findings. In the present state of our knowledge this is as far as we can go, or should go. Clinical evidence is rapidly accumulating to establish the fact that physical signs and especially electrocardiography may reveal the source of true cardiac pain. Cardiac pain therefore is a symptom referable directly to the coronary arteries.

A diagnosis of cardiac pain is frequently made where the cause is not coronary disease. In such cases the more serious condition is mistaken for one less important to the patient. The final result is not likely to be fatal as the true factors involved are ultimately brought to light. When the situation is reversed, however, a grave error is often made. We refer to those conditions where so called indigestion, pleurisy, colitis, and neuritis involving the pectoral group or the arm and shoulder, are mistaken for coronary disease and faultily treated. Then

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too the ambitious surgeon now and then operates for cholelithiasis, appendicitis, acute ulcer, and even pancreatitis where the factor of cardiac pain has not been differentiated. This is a most important group in which neglect and error may be the direct cause of a fatal issue.

The internist is frequently consulted with regard to cardiac pain where the heart is not involved. The patient's anxiety or his mistaken idea of the location of the heart, or both, cause him to lose no time in seeking an opinion. Chest pain secondary to focal infection, distention of the stomach or colon, a pleuritis, esophageal spasm, vertebral arthritis, or a spinal cord lesion are among the numerous extra-cardiac conditions that may produce pain in the anterior and left lateral chest region. Examples are legion and their citation in this discussion would be superfluous. However, instances of the diagnosis of an inconsequential condition without the consideration of the likelihood of an intracardiac lesion may be cited. Such a case is the following:

Case 1.—A physician, aged 49, whose father and mother both died of angina pectoris. While the patient was walking up an incline of moderate degree, he felt a strange tightening sensation across his chest. Thirty-six hours later he again felt a return of what he called an indescribable intense fatigue, unbearable, and yet not sufficient to excite any fear of impending danger. The sensation, though not a sharp pain, was equivalent, he states, to actual pain. It radiated into both arms and shoulders. In forty-eight hours it gradually subsided. He was much distended and vomited once with relief. There was constant eructation of gas.

He moved to a lower altitude, thinking that the mountains where he was visiting had something to do with symptoms. Here he consulted a physician who found a low blood pressure, a rapid heart rate and râles in the anterior chest. His temperature was between 99 and 100. The physician made a diagnosis of mild bronchopneumonia and pleurisy and kept him at rest. He was seen by us two months later. His pulse was still about 100. His blood pressure 100/80.

The history suggested a coronary thrombosis with infarction, which diagnosis was strengthened by the physical examination, and the electrocardiograph revealed a typical curve.

Case 2.—Mrs. L. W., aged 70, at death. The patient was first seen in 1916, for cardio-renal disease. There was three plus albuminuria. She was seen on many occasions after the original visit and it was found that her blood pressure varied between 160 and 226 systolic and 90 to 140 diastolic. She had never complained of precordial pain. On July 26, 1928 she complained of feeling very bad and of intense pain in the right infra-clavicular region. At this time it was noted that her blood pressure had fallen from 15 to 20 millimeters from the previous reading a week before. An electrocardiogram taken on the third day of this illness revealed depression of the S. T. interval. She was put to bed with instructions to maintain absolute rest. Coronary disease was suspected, though the unusual location of the pain and the patient's general well-being did not lead us more than to suggest its possibility. Treatment was carried out, however, on this assumption. The patient spoke frequently of this as her last illness, though she never gave on direct inquiry any other hint of fear of impending death. The third day of her illness a slight elevation in temperature developed and then subsided. On the fifth day she suffered a sudden and severe attack of vomiting. There was no persistence of nausea afterwards. The nurse reported an increase of cyanosis and pulse rate during and for a short time after the emesis. On the seventh day the patient complained of epigastric pain and a sense of abdominal fulness. This persisted for about two hours when suddenly the patient vomited, had severe cardiac pain and died.

These two patients are cited because they represent borderline cases in which the more serious possibilities were not recognized at the beginning. In the former, the suggestive family history, the initial symptoms, the mildness of the suspected pulmonary condition, and the course should have created suspicion that a coronary lesion existed. In the latter, the suddenness and the intensity of the pain, the patient's anxiety, the total absence of signs of bone or joint involvement and the initial attack of vomiting should have suggested cardiac pain. In both of these cases an absolutely accurate differential diagnosis could have readily been made on the electrocardiogram alone as was subsequently shown.

In essential hypertension, particularly of the malignant type, cardiac pain frequently occurs. Numerous theories have been advanced to explain the origin of hypertensive heart pain. Sutton and Lueth, we feel, have disproven the often expressed theory that such pain originates from the stretching of the great vessels or heart cavities, for they were able to stretch these parts to the point of rupture without producing demonstrable evidence of pain. That here again the coronary arteries are at fault is without question. A typical case is the following:

Case 3.—Mrs. S. B., a nurse, aged 30, was first seen December 30, 1927. She stated that she had been in a train accident and, although she did not remember her head being struck, she was unconscious for several minutes. When she became conscious she felt as if her jaw had been driven through her head and as if her back had been broken. She was in the hospital six weeks with a condition that had been diagnosed as cerebral concussion. Ever since this accident she has had attacks of severe headache associated with a marked rise in blood pressure. Her blood pressure is at times as high as 295 systolic and 175 diastolic. Against advice, she at times engages in moderately strenuous physical exertion. Frequently when she does so, she has severe precordial pain and tightness across the upper chest. There is no radiation of the pain and it is not so severe that the physical exertion can

not be carried on. When last seen in our office, August 30, 1930, her blood pressure was 265 systolic and 170 diastolic.

In this case, there is presented no great difficulty in diagnosing true cardiac pain. In the presence of a hypertension one can scarcely ever be overcautious in suspecting cardiac origin of any chest pain which is accentuated by physical exertion.

The third type of case which we wish to present is illustrated by the following history:

Case 4.—Mr. J. A. W., aged 53, general insurance agent. This patient gave a history of having had some slight precordial distress occasionally for several years. Fourteen months before he was seen in our office he had an attack of severe chest pain and an unexplained temperature. He was in bed for three weeks without a proper diagnosis being made. An electrocardiogram taken two months after this illness revealed definite evidence of coronary thrombosis. He remained very well for a period of about ten months, at which time he returned to work. One week preceding his fatal illness, be avoided a serious automobile accident only by strenuous exertion on his part. He was seen three days after this near-accident, complaining of typical anginoid pain with radiation down the left arm. His blood pressure at this time was 170/100. Two days following, after his evening meal, he developed severe precordial distress, broke out in a cold sweat and went into a state of collapse. His condition when seen a few hours later, was very poor and he was suffering from intense pain in the upper chest, which was not entirely relieved by one-half grain of morphine. He had already told his family good-bye for he said he was going to die. At the time of this visit, cold clammy slightly cyanotic skin was evident, there were râles all over the lower half of each lung, the heart sounds were very faint, the blood pressure was under 100 systolic, extrasystoles were present and the pulse thready and rapid. The following day his temperature was 101 and remained at this level or higher until his death on the fourth day of his illness. The electrocardiogram was typical of coronary thrombosis. Autopsy revealed a complete occlusion of the descending branch of the left coronary artery with infarction of the apex and anterior wall of the left ventricle. An old canalized thrombus was found near the origin of the right coronary artery.

In this case, we have a classical example of coronary thrombosis with cardiac infarction. The history of previous precordial pain with one attack of coronary thrombosis, the sudden onset of his fatal illness, the fall in blood pressure, the persistent boring pain requiring large doses of morphine and lastly definite evidences by electrocardiogram, all point to the true nature of his disease.

Perhaps the best known example of cardiac pain is furnished by the cases of angina pectoris without coronary occlusion but with coronary sclerosis and with or without arterial hypertension. From our files may we cite the following history:

Case 5.—J. W., aged 76, retired baker. This patient was first seen June 5, 1928. His complaint was pain in the left arm and chest and some difficulty reading in that he could not apprehend what he read although he could see perfectly well. He also had some weakness in the left arm. His blood pressure was 160 systolic, 90 diastolic. For many months the slightest exertion brought on severe vise-like pain in the precordium radiating out the left arm. He has been markedly relieved by nitroglycerine and for months at a time by restricted activity and the administration of vasodilators has been free of pain. His blood chemistry, blood Wassermann, and electrocardiogram were all normal. When last seen his blood pressure was 160/100.

With these somewhat typical cases in mind, what then may we say are the cardinal points on which a true differential diagnosis of cardiac pain may be made?

1. That a careful history of the nature, duration, inciting factor, and location of the pain with its possible radiation, is of major importance, almost goes without saying. It is often possible, without ever touching the patient, to make a diagnosis of cardiac pain on the basis of a careful history alone. We are frequently astounded by the gross neglect of this essential detail.

2. In the physical examination, we feel that all the signs of arteriosclerosis should be carefully sought, for although coronary thrombosis and angina pectoris often do occur without demonstrable signs of a generalized arteriosclerosis, nevertheless they are most commonly found in arteriosclerotic individuals.

3. The blood pressure, with especial reference to the diastolic reading, is a very important detail. Well over 50% of the cases of coronary thrombosis have had a previous hypertension and the association of angina pectoris with simple coronary sclerosis and a previous or present hypertension is well known. We have mentioned the occurrence of chest pain in hypertension which is not of anginoid character. In coronary thrombosis, possibly the one most important finding is a blood pressure below 100 systolic or a sudden fall of blood pressure below a previous known level. We have been able to make a diagnosis of true cardiac pain on this basis alone, in two atypical cases of coronary thrombosis.

4. While physical examination of the heart and lungs sometimes closely approaches the normal, a cardiac dilatation, a

muffled first heart sound, and râles at the base of the lungs are of extreme importance in accurate diagnosis. We have followed carefully a case of severe cardiac neurosis with coronary sclerosis in whom we were most uncertain as to the true nature of the disease until the tone of the first heart sound became definitely softer and râles appeared at the base of the lungs. Sutton and Lueth have observed constant dilatation of the left ventricle immediately following experimental occlusion of the left descending coronary artery.

5. The electrocardiograph has perhaps done more to clarify the field of cardiac pain than almost any other factor. While in the present state of our knowledge, we must admit that coronary sclerosis may be present in severe degree without alteration in the electrocardiogram being present, nevertheless in many cases of simple coronary sclerosis electrocardiographic evidence is obtainable. During the last two years we have followed closely 19 cases of coronary thrombasis. Because of the availability of the modern portable electrocardiograph we have been able to make careful and repeated electrocardiographic studies in these 19 cases. There has not been a single case in which, sooner or later, definite evidence of coronary thrombosis with cardiac infarction was not found, electrocardiographically. In some cases the evidence was obtained as early as one hour after the complete occlusion; in one case such evidence did not appear until the end of 44 hours after the occlusion. In other cases several days had elapsed before the initial tracing was made. All of these 19 cases have been verified by subsequent history or by autopsy.

THE LARGE-HOLED HEAD MIRROR

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The examination of the ear, or of the larynx by the indirect method, appears to be so very simple, that many may take it for granted that it has always been so. And yet, like almost any method which has not been discovered accidentally, it has taken years and the efforts of many to establish the methods which are now used generally. It is interesting to learn the steps which have been taken in the course of time. I am especially interested in the development of the head mirror which is now in use, because, when I was an interne in the Massachusetts Charitable Eye and Ear Infirmary in Boston, from January 1, 1896, to April 1, 1897, I had devised a head mirror with a large hole in the center. This larger opening in the head mirror had a little history of its own. It had been constructed first in order to facilitate the dressing of mastoid wounds. I remember very well when Dr. Crockett used the mirror in the Infirmary. He was very much pleased with it, because there was much less strain on the eye. The opening was rather large. Gradually, in the course of time, I had the opening made somewhat smaller for general clinical work, so that a mirror with a hole of about 12 mm. is found by me, today, to fill the necessary requirements. Before that time, as the older practitioners will remember, a smaller hole, about 8 to 9 millimeters in diameter, was used. Although I had devised the mirror before April, 1897, the same was published not sooner than in 1899, in the transactions of the Michigan State Medical Society.

When I was in Berlin, in 1897-1898, I took a course with the famous professor Fraenkel, using my large-holed mirror. Fraenkel asked me where I got the mirror. I told him "in America." He seemed to be quite interested and mentioned, if my memory serves me right, that Musehold had used a head mirror with large opening in order to photograph the larynx. One thing is well established, to my satisfaction, namely, that the small-holed mirror was in general use until I introduced my mirror, so that, today, a mirror with a small opening is a great rarity. I remember to have seen, lately only one small-holed mirror used by a somewhat elderly specialist in Detroit. Of course, it might well be asked why one should be so much interested in such an apparently little affair. There are several answers to this

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question. In the first place, who is to decide what is a circumstance of little or great weight? Secondly, is it of such little importance, when practically everybody enjoys now the benefit of this apparently little change? Thirdly, it is a question of one's right. The famous professor of law, Jehring, has said that the person who forfeits his right, forfeits the right. I consider it to be a moral obligation on my part to insist that the right be observed. In order to illustrate this point, I should like to state that in one English textbook the first large picture showed a head mirror with a large opening. The legend stated that it was Horne's mirror. I wrote to the author and sent him the illustrated little article of mine (of 1899). I received the following communication: September 5, 1921. "I thank you for your note and pamphlet of instruments. I am interested to see how the idea of a large-holed mirror has arisen so long ago as 1899. Here it is known as Horne's Mirror, but it does not seem to have been first devised by him." In the next edition, the author called the mirror the Horne-Jones mirror, if I am correct. I have asked the author for an explanation, March 11, 1930, but have not received an answer. I would have been very much interested to learn why I have not received credit for my mirror on his part. Furthermore, while formerly instrument makers called the mirror, now in general use, the Amberg mirror, I cannot always find such a reference, lately. When I was in London, England, in 1924, and just happened to attend a meeting of the otolaryngologists, I saw a mirror with a large hole in the exhibit of Messrs. Allen and Hanburys, Ltd. I asked the gentleman in charge, who had devised the mirror with the large hole. He told me that he did not know. I sent Messrs. Allen and Hanburys some literature on the subject and received the following answer, dated December 18, 1924, in part: "We are returning herewith the 'Meyorwitz Bulletin' also the card from Dr..... and we are recording the fact that the Laryngoscope with large hole was invented by you. In the next edition of our catalogue the instrument shall be described as your design."

As everybody knows, new ideas develop from old ones. It is only natural that such a little step might have occurred to others. I intend, if possible, at some future time, to enter more thoroughly into the history of examination of the outer ear by the aid of illumination. In connection with the subject-matter I reproduce a letter which I have received from H. Pfau, the well known instrument firm, in Berlin, dated February 16, 1911. "In replying immediately to your inquiry I should like to say, that the reflector according to Musehold with an extra large opening, has appeared in my catalogue of 1898. In 1897, the author has shown the mirror in the Laryngological Society and has talked about the modification, after he had—perhaps end of 1896—called attention to his new reflector in an article concerning a special method of photography. From the year 1895 on, the mirror has been used privately by the author but was not published. I regret that I am unable to give you detailed information concerning the article of the author mentioned before. I, also, would not like to trouble Sanitaestrat Musehold, etc." This letter speaks for itself. A well known author of an American textbook on Diseases of the Ear wrote me, July 14, 1921, in part, "I am glad to have had my attention called to the omission of your name in connection with your head mirror. Should any other edition be called for, this error will be corrected." In conclusion, I should like to say that I do not intend to assume credit when credit is not due to me, but that I expect the same treatment from others.

FAMOUS MEN IN MEDICAL HISTORY

PHILIP SYNG PHYSICK—"FATHER OF AMERICAN SURGERY"*

CHARLES BELL

If we may project our thoughts back a century and a half, we see America in a state of turmoil, proud, clambering for independence, no longer willing to submit to the English rule. In spite of the conglomeration of nationalities scattered up and down the Eastern coast, there was beginning to appear a feeling of individuality—the colonists were beginning to consider themselves a power to be reckoned with, and one to be recognized by the mother country. Out of this spirit, whose flame was kindled by the domination of England, came the Revolution and the struggle for independence, crowned eventually by victory. The newly formed United States, however, a mere infant in politics, culture and science, was forced to look to the Old World Civilization for guidance and a start. The development of a new individual nationality, a unique American culture, was a matter of slow growth, and in spite of the independent attitude of our forefathers, they realized that it was still to the Old World that they must turn for guidance. Before the Revolution it was to Edinburgh and London that they turned. However, after the war, paralleling the growth of a new nation, there were beginning to appear men of a new type—a distinctive American type—who began to see things and make inquiries for themselves. For many years, the influence of London, Scotland, Paris, Vienna, was felt, but the Americans were beginning to realize that science is an individual matter, not a matter of geography. Among the early men whose influence was felt in American medical science and whose teachings were destined to model the form of future American medicine was John Hunter. His teachings were brought to America by Philip Syng Physick, the American mouthpiece of Hunter, known a little over a century ago as the greatest American surgeon of his day.

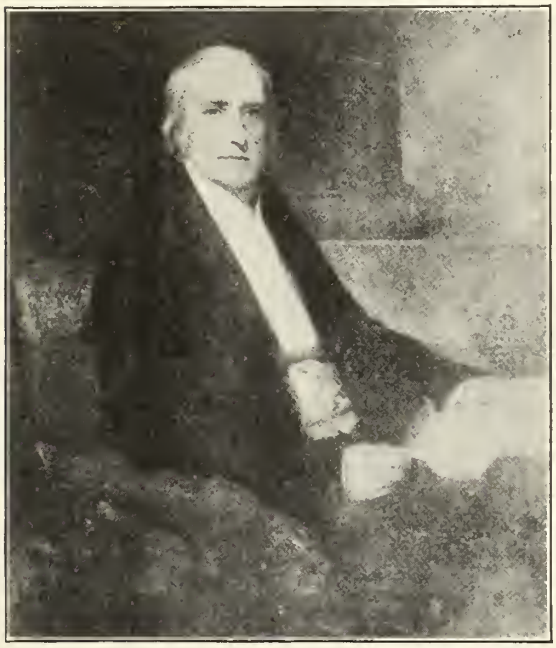
Physick was born in 1768, just before the Revolutionary War. His father was a certain Edmund Physick, receiver-general of the Province of Pennsylvania before the Revolution and agent of the Penn Estates after the war. His mother, daughter of Syng, a silversmith, was a woman of strong character. This couple decided early that their son was destined to be a doctor—whether or not the idea occurred to them because of the peculiarity of their surname is unknown. So they determined to give him the best possible education. In typical English fashion, Philip's father carried out his plan, in spite of violent remonstrance on the part of his son. Accordingly, Robert Proud, a local historian, was induced, at double pay, to tutor the young Physick. We know little of his life at this time, but judging from his later life, it was probably unexciting, full of hard conscious effort. Gross, his biographer, says of him at this time, "a faithful, scrupulous, toiling soul, something of a prig and not popular with his mates, but readily devouring any mental pabulum offered him, notably when, advised to read Cullen's first lines on the 'Practice of Physick,' he learned by heart all the dreary stuff."

From tutorship he went to the University of Pennsylvania, where he received his A.B. in 1785, at the age of seventeen. Philip greatly disliked medicine, the dissections and operations disgusted and offended him, and he begged his father to let him off, but to no avail. His father, a typical determined Englishman, would not change his plans for his son. Philip was a student in the office of Adam Kuhn, a Philadelphia practitioner, for three years, studying medicine with little enthusiasm, unintelligently, uninterestedly, but resigned to whatever was put before him.

In 1789, his father took him to London, where he was fortunate enough to be taken into the family of John Hunter. The opportunities for study thus opened to the young American were wider than in any other part of the World at that time. Hunter had collected the most extensive museum in existence, he had his own dissecting

*Read before the Victor C. Vaughan Historical Society, University of Michigan Medical School, January, 1931.

rooms, and he was surgeon to St. George's Hospital. Young Physick soon won the regard of Hunter, in spite of the contrasting personalities of the rough and ready Scotchman and the retiring, precise, prim American. There was no doubt about the fact that Hunter was a hard master, for he spared his pupils as little rest as he spared himself. The manner in which Hunter taught is well told in Grosse's "Eminent American Physicians and Surgeons." Physick's father asked what books it would be necessary for him to procure for his son. Hunter's answer was, "Then, sir, follow me; I will show you the books your son has to study," and leading him to the dissecting room, he pointed to several bodies, adding, "There are the books which your son will learn under my direction; the others are fit for very little." Young Physick took this advice very seriously, and applied himself very diligently to dissection, doing such neat dissection as to cause the favorable comment of his master. Further confidence was manifested when he was appointed assistant in experiments, which position required a trustworthy and accurate man. In other words, the pupil was growing rapidly in the favor of Hunter, so much so, in fact, that when the position of House Surgeon at St. James Hospital became vacant, Hunter used his influence in having Physick appointed to the vacancy. In the hospital he was able to put into practice the great principles his teacher had been expounding.



Philip Syng Physick
1768-1837

CAT.

Among the men who had been pupils of Hunter, in his home, were Jenner and Kingston, while Home, Lynn, and Anthony Carlysle, though not living in the house, were received there quite intimately. Physick remained there two years and four months and was so well liked by Hunter that he was invited to stay on and share Hunter's practice. Had he stayed, he probably would have practised surgery mainly, giving Hunter more time for research. However, Philip Syng refused, for reasons unknown, abiding by his own carefully laid plans, and went to Edinburgh for a year, at the end of which time he received his M.D., at the age of twenty-four. Before leaving Europe, he received his license from the Royal College of Surgeons. Fortunately, for the good of American surgery, he felt a longing for his native city and returned to Philadelphia in 1792.

Young Physick, armed with a medical training of eleven years, which was exceedingly unusual for those days, and fresh from John Hunter, was expected to do great things in America, but he seemed to lack the personality or "push" of such men as Cadwalader, Barten, Shippen, Morgan, or Rush, who stepped almost at once into a good business. Accordingly, he spent three years almost without a practice. He managed to be appointed family physician to several prominent families, at a minimum salary, and thus was able to eke out an existence.

Like other American doctors of his day, such as Warren and Rush, Physick suffered continuously from ill-health. He had a wretched digestion, and, like many dyspeptics, he was pessimistic, reserved, and positively devoid of a sense of humor. He was a man of medium stature, pale, thin, with sharp, severe features. However, he was very sympathetic with his patients, if they were really suffering, but positively intolerant of any humbug or hysteria. He had small, delicate, nervous hands, and was very skillful in operating. Physick contributed to his own ill-health, breaking all the laws of hygiene. He ate irregularly, starved his body, hated sunshine and fresh air, never exercised, sleeping in a small, dark, "herme-

tically sealed" room. Despite his ill-health, he worked untiringly, arising at four and retiring at nine, never allowing himself to be called out at night.

He cared nothing for or knew nothing of art and literature, studied little science outside of medicine, and even read little of that after his student days. Politics was a bore to him. Nature meant nothing to him but a source of food and drugs. Physick was sure of himself—he was confident in his own ability—and was very distrustful of the work and accomplishments of others. He would never accept the word or theory of others until he had seen for himself. This is exemplified in his disgraceful treatment of Ephraim McDowell. After performing his first ovariotomy, McDowell wrote to Physick, recognizing Physick as one of the medical leaders of the day, asking him to publish his work, if he saw fit, in one of the medical magazines. Physick, however, simply ignored this "backwoods upstart," never even acknowledging his letter. These peculiarities grew on him, so that in his later days he was a very lonely old man.

In 1793, the year of his return from Europe, a terrible epidemic of yellow fever broke out in Philadelphia and Physick volunteered to help. He was appointed physician to the Fever Hospital at Bush Hill, where he might have done some very valuable work and made important contacts, had he not resigned the following day, being unwilling to serve with a certain Frenchman, Deveze. However, he worked faithfully in trying to combat the epidemic, taking very careful notes, doing as many autopsies as posible, and contracting the disease himself. In 1794, Deveze having left, he took service at Bush Hill Hospital and this position and his appointment to the teaching staff of the Pennsylvania Hospital, gave him his start. In 1796, he succumbed to the common lot, and married Miss Emlen, by whom he had four children. The following year, another severe yellow fever epidemic broke out, Physick was again stricken, and was bled to the extent of 176 ounces. The epidemic cost eleven hundred lives, among them nine physicians.

By 1800, he was lecturing in surgery at the University Medical School, Rush being among his admirers. Due to the politics of Rush, and an enmity between Rush and Wistar, the professor of surgery and gynecology at that time, a separate chair of surgery was created in 1805, and Physick was appointed the first professor of surgery. This position he held for thirteen years. It was said of his lectures, "For the first time here students heard something more than theory and a mere setting forth of operations and technic; they were taken to the root of things, and made to observe, deduce and record." Although delivered in a monotonous style, his lectures were so far-reaching and fundamental that his pupils spread far and wide the fame of the great surgeon and teacher. These lectures, which were Physick's greatest contribution to surgery, were never published, being almost lost with the telling. His biographer says of them, "He had now a wide field for the exercise of his powers, and was listened to by large classes in the University, through the members of which he could disseminate the principles of surgery, acquired from his celebrated preceptor, John Hunter, and strengthened and enforced by his own meditation and personal experience, obtained in hospitals and private practice."

The period from 1801 to 1825 was the busiest period in his life. After his election to the chair of surgery, he was recognized as chief of the surgeons of Philadelphia, or, for that matter, of any of the medical centers of the country. He made a large fortune and was given many honors, being the first American to be elected to the French Royal Academy of Medicine, and given an honorary fellowship in the Royal Medical and Chirurgical Society of London.

In the operating room he was unequalled, being especially skilled in performing lithotomies. One of his last lithotomies was performed on Chief Justice John Marshall, from whom he is said to have removed one thousand calculi, with a brilliant recovery.

Physick's philosophy of surgery was founded upon the conservative views of John Hunter, whose saying he must have often heard: "To perform an operation is to mutilate a person we cannot cure; it should, therefore, be considered an acknowledgment of the imperfection of our art." He first applied his philosophy in Pennsylvania Hospital in treating ulcers. "He directed the patient to be confined to bed and be kept strictly at rest, and in cases where the ulcer was situated on the lower extremity, he caused the limb to be considerably elevated. Constitutional treatment was

carried on at the same time, and soothing applications were made to the ulcer."

He also introduced modifications and improvements in the treatment of fracture, particularly that of Desault in the fractures of the thigh. By increasing the length of the splint, he produced more counter-extension, providing better immobilization and insuring greater comfort to the patient. He introduced a treatment of supra-condylar fractures of the humerus so that there was less deformity and more return of function. In orthopedic surgery, his inventive mechanism and originality helped him. His method of treatment of coxalgia is the basis for most modern methods of treatment. His appliance for outward displacement of the foot in Pott's fracture seems to have anticipated that of Dupuytren. In the treatment of dislocations, Physick believed in bleeding to the extent of inducing fainting, originally suggested by Alexander Munro of Edinburgh. His surgery was conservative and in practice he was guided by common sense, and was very intolerant of the theories and teachings of others.

Dr. Physick early suggested an improvement in the gorget, originated by Cline, used in the division of the prostate gland and neck of the bladder. Physick was very clever and ingenious in modifying and improving the instruments he used in his operation. For example, he made an extensive study of stricture of the urethra. In 1795, he devised an instrument for cutting strictures. It consisted of a knife concealed in a cannula, pressed down in the body of the cannula, then raised as the cannula was withdrawn from the urethra. He also introduced a method of passing a seton between the ends of an ununited fractured humerus, to stimulate callus formation.

He improved the instruments used in the removal of tonsils and hemorrhoids, inventing the tonsillotome. Physick was a pioneer in experimentation on absorbable ligatures. It was he who suggested to his nephew, John Syng Dorsey, the idea of using a buckskin suture ligature on a large artery in the horse. It stopped the bleeding and was discharged in a liquid state in two or three days.

Physick excelled in abdominal surgery, devising an operation for the cure of artificial anus by a lateral anastomosis, occasionally produced by gangrene from strangulated hernia of the gut. Dr. B. H. Coates describes the operation in detail: "The two ends of the intestine were found by examination to adhere to each other for some distance, in a form simulating a double-barreled shotgun. The next method, proposed by Dr. Physick, was to cut a lateral opening through the sides of the intestines, where they were adherent. By introducing his finger into the intestine by one opening, and his thumb through the other, he was enabled to satisfy himself that nothing interfered between them, but the sides of the bowel. He was then enabled without risk, to pass a needle, armed with a ligature, from one portion of the intestine into the other, through the sides which were in contact, about an inch within orifices. After about three weeks, concluding that the required union of peritoneum had taken place, an opening was made between the two portions of gut. By stopping the external orifice, the feces regained their natural route, the external aperture was afterwards healed, and the patient relieved from his most loathsome complaint."

The vast majority of these teachings and principles were contained in a two volume work by Physick's nephew, "Elements of Surgery," a well written treatise drawn largely from Physick's carefully written lectures on surgery. His nephew, John Syng Dorsey, lived only long enough to compile and publish this work, dying at thirty-four. Dorsey possessed many of those attributes which made his short life colorful, while Physick's was drab.

Gross, Physick's biographer, describes Physick as a "cold, dyspeptic, pessimistic, unsociable man, but full of sympathy for suffering humanity, strikingly erect, and handsome, but not pallid, his face was as if chiselled out of marble, his eyes black, and his hair powdered. Fond of money, but never claiming high fees, still he left nothing for the advancement of Science." Toward the end of his life, his peculiarities grew on him, and he became a very lonely old man. He left positive orders before his death that no autopsy be done on him, that his body be saved until decomposition set in, then buried and guarded for six weeks. Physick's life shows a moral lesson—the need in life of more than one ideal. His whole life and thought was the practice of medicine, and when he reluctantly gave that up, life was a hollow shell.

In spite of his shortcomings, Physick

was a great man. He was a physician as well as a surgeon. His great contribution to American medicine is that he raised American surgery from its somewhat low state and so developed that it soon became equal to the best surgery of Europe.

For more than a third of a century, Physick was the surgical mentor for thousands of students, and his surgical teachings, widely disseminated through his pupils and Dorsey's "Elements," pointed the way to greatly improved surgical practice. Probably no surgical teacher in America exercised so wide an influence as did Physick. He brought to America the surgery of John Hunter, and has deservedly received the appellation, "The Father of American Surgery."

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner,
LANSING, MICHIGAN

INFANTILE PARALYSIS

An event that may be of more than immediate significance was the organization on August 22 of the Michigan Commission on Infantile Paralysis. It is made up of representatives from the State Medical Society, the University of Michigan, the Crippled Children's Commission, the Orthopedic Board, the Children's Fund of Michigan, the W. K. Kellogg Foundation, the Detroit College of Medicine and Surgery, the Wayne County Medical Society, the Detroit Department of Health, the Michigan Society for Crippled Children, and the Michigan Department of Health.

The Executive Committee of the Commission consists of:

Dr. C. C. Slemons, State Commissioner of Health, Lansing, Chairman.

Dr. J. D. Bruce, University of Michigan, Ann Arbor.

Dr. R. C. Stone, Pres., State Medical Society, Battle Creek.

Dr. J. D. Gordon, Detroit Department of Health, Detroit.

Dr. Stuart Pritchard, W. K. Kellogg Foundation, Battle Creek.

Dr. B. W. Carey, Michigan Children's Fund, Detroit.

Dr. W. J. V. Deacon, State Department of Health, Lansing, Secretary-Treasurer.

The plan of work of the Commission includes providing diagnostic assistance upon request and furnishing convalescent serum for treatment of cases.

The state has been divided into eight districts, with a regional consultant in charge of each district. A list of the districts follows:

District No. 1. All of the Upper Peninsula.
Dr. Moses Cooperstock, Marquette.

District No. 2. All of the counties north of the south line of Manistee, Wexford, Missaukee, Roscommon, Ogemaw, and Iosco.
Dr. Gordon B. Moffatt, Grayling.

District No. 3. Mason, Lake, Osceola, Oceana, Newaygo, Mecosta, Muskegon, Montcalm, Ottawa, Kent, and Ionia.
Dr. L. J. Schermerhorn, Grand Rapids.

District No. 4. Clare, Gladwin, Arenac, Isabella, Midland, Bay, Saginaw, Gratiot.
Dr. L. F. Foster, Bay City.

District No. 5. Huron, Tuscola, Sanilac, Genesee, Lapeer, St. Clair.
Dr. Lafon Jones, Flint.

District No. 6. Allegan, Barry, Van Buren, Kalamazoo, Calhoun, Berrien, Cass, St. Joseph, and Branch.
Dr. J. B. Jackson, Kalamazoo.

District No. 7. Oakland, Macomb, Jackson, Washtenaw, Hillsdale, Lenawee, Monroe, and Wayne (except the city of Detroit).
Dr. J. P. Parsons, Ann Arbor.

District No. 8. Clinton, Shiawassee, Eaton, Ingham, Livingston.
Dr. Earl I. Carr, Lansing.

These consulting physicians are prepared to go themselves or to send a physician who is capable of clinical diagnosis and doing spinal puncture if indicated. Any physician who desires this service should call the regional consultant of his district.

The collection of blood from convalescent cases for the preparation of serum is being handled for the most part by health officers and representatives of the Michigan Department of Health. The serum is distributed

at the discretion of the regional consultant. A payment of $10 is made to each donor. The serum is furnished only for pre-paralytic cases, upon a diagnosis confirmed clinically and by spinal fluid test. It is not for sale, and no charge is made for it, but those able to contribute toward its cost are invited to do so. The cost is from $15 to $20 per patient. The supply of serum is limited, and it is not given to cases already showing paralysis or for immunizing purposes.

One of the first activities of the Commission was the holding of a clinic on infantile paralysis on August 27 at Herman Kiefer Hospital. Between three and four hundred doctors from all over the state attended.

The work of the Commission is being financed jointly by State and voluntary agencies.

WHAT CAN BE DONE ABOUT MEASLES?

Physicians know that measles, including its sequelæ, is the cause of many deaths among young children. The deaths reported in Michigan from this cause during the last five years number 1,324. No doubt, many which were due primarily to this cause were reported as pneumonia or something else. The incidence is usually highest during the late winter or the spring months.

Relatively few physicians have so far considered the use of convalescent serum or of whole blood of an adult or older child who has had measles. It is difficult to secure and have available for distribution the convalescent serum. The whole blood of any one who has had measles has been found effective and the procedure is simple and practical.

If the child has been exposed to measles the disease can often be modified or prevented by the intramuscular injection of whole blood from a person who has had the disease. To assure protection, the blood must be given within four or five days after exposure. The degree of protection will depend upon the interval since exposure and upon the amount of blood given. *All children three years of age or less and any susceptible child to whom an attack of measles would be an unusual hazard, may well be protected by this measure.* Contraindications to the use of this method are the presence in the donor of tuberculosis, syphilis, malaria or any other communicable disease. One or the other of the parents or an adult brother or sister should be selected.

When the blood is injected within the first four or five days after exposure, the disease will usually be modified, sometimes prevented. If complete protection is not obtained, this dose generally prevents a severe attack. It may allow a mild form of the disease to develop, which establishes a lasting, active immunity.

Different bloods vary in their protective power. The age and size of the person receiving the blood also influence the amount to be injected. *It should be borne in mind that when complete protection is obtained the immunity lasts for a comparatively short time.* When partial protection is secured, evidenced by the mild attack of measles which follows, then the child is actively immunized and has a lasting immunity to the disease.

It is best to give the blood mixed with a sodium citrate solution. This citrate solution is put up sterilized, in ampules, by the Michigan Department of Health and furnished without cost to any physician.

Parents of younger children are being urged to take advantage of this way of protecting their children against a very dangerous disease.

C. D. B.

OF GENERAL MEDICAL AND SURGICAL INTEREST

ERGOT, IMPORTANT DRUG, RAISED ARTIFICIALLY

Ergot, one of the most important drugs used in medicine, may in future be raised artificially in the laboratories of pharmaceutical factories, instead of being harvested in the natural state as at present. Preliminary experiments pointing to this possibility have been carried out by Miss Adelia McCrea in the botanical laboratories of the University of Michigan.

The quality of ergot was the subject of a Senate committee hearing last June, as a result of charges that the federal food and drugs administration was allowing importation of impure and adulterated ergot. Miss McCrea's research raises the question of whether the growth of laboratory-raised ergot may not be so controlled as to insure a supply of the drug having a high degree of potency. It is too early, however, to consider practical applications of Miss McCrea's work, which is still in the realm of pure science.

Miss McCrea grew cultures of the fungus from which the drug is derived on a variety of media, including mashes and jellies made from various kinds

of grain, and simpler jellies containing different sugars. She found malt sugar to be the best food for the fungus. To get ergot to grow in a flask or test tube at all is regarded as a considerable triumph, because under natural conditions it is a parasite, preying only on living plants. She found it to be fairly modest in its food requirements, doing quite as well on a two or three per cent concentration of malt sugar as it did on six or eight per cent, and failing to thrive at all at higher concentrations.

It was greedy for oxygen, however, growing much faster when a stream of pure oxygen was passed through its tube than when it was given only air. But on a mixture of half oxygen and half carbon dioxide its growth was considerably retarded. It grew best at temperatures between 68 and 77 degrees Fahrenheit.

Light had a powerful effect on it. Without the shorter-wave visible rays—the blue end of the spectrum—it did not develop the purple color that is its most marked characteristic. Ultraviolet light, however, had no stimulating effect, and in repeated doses even retarded development.

Miss McCrea made physiological tests of the ergot growths she raised, and found that they produce most of the effects characteristic of natural ergot, though somewhat less powerfully. The reactions averaged from 40 to 75 per cent of those obtained with the same concentrations of natural ergot.

In making these tests, however, she had to use the whole vegetative growth of her cultures, for they did not produce the full-grown fruiting bodies which are the only source of commercial ergot at present.

Miss McCrea also made two attempts to infect growing grain with ergot, with the idea that its field cultivation might be undertaken. At present, commercial ergot is obtained solely by hand-gathering of wild growths on grain, especially rye, and wild grasses. Because of the great amount of hand work involved, and the high cost of labor in this country, American production of ergot is unprofitable. However, the field experiments did not yield particularly encouraging results, and Miss McCrea concludes that if it ever becomes desirable or necessary to raise ergot in this country the laboratory method is the more promising.—*Science Service.*

THE HOSPITAL, THE MEDICAL COLLEGE AND THE INTERN

A. C. Bachmeyer, Cincinnati, states that in many colleges, including the University of Cincinnati College of Medicine, the question of internship is the subject of a formal lecture to the students early in the senior year. The limited time permits only a brief discussion of the situation. The requirements of the college, the organization of the hospital, the importance of its primary function, the place of the intern in its organization, the need for the observance of its rules and regulations, and the necessity for exercising discretion, good judgment and self-control are emphasized. Lists of hospitals approved for internship by the American Medical Association and of those in which former interns have had service satisfactory to the college are published. In addition, there are personal interviews between the dean and other members of the faculty and the individual students. From these interviews, the dean or a selected member of the faculty may obtain an intimate insight into the student's plans and ambitions and be enabled to offer helpful advice or often to direct the student to the type of internship best suited to his needs and instruct him how to proceed in order that his plans may be best accomplished. Before the University of Cincinnati adopted the fifth year requirement, all its students, for many years, had voluntarily served internships of at least one year's duration. In recent years, however, an increasing number have planned to spend one or more additional years in clinical training. This desire is often developed in the course of the personal interview, and plans are formulated whereby such extended service may be obtained. Internships are therefore in demand in those institutions in which the opportunities for advanced training are best developed. In return for the many educational advantages and opportunities, the hospital has a right to expect that the intern will conscientiously devote himself to his duties, even to those that are uninteresting or of a routine nature; that he will conduct himself as a gentleman and as a full-fledged physician; that he will fit into his important but relatively minor place in the hospital organization in an harmonious manner, do everything in his power for the good of the patients assigned to him and refrain from doing anything that will in any way interfere with the best interests of the patient or of the hospital. If the college, the hospital and the intern will develop this attitude toward the subject of intern service, a solution of the many vexing difficulties of which each of them often complains can be hoped for and every internship can be expected to be of real educational value.—*Journal A. M. A.*

HIGH BLOOD PRESSURE AND LONGEVITY

David Riesman, Philadelphia, cites five cases illustrating the compatibility of hypertension with longevity. One of the cases shows that even the arteriosclerotic form of hypertension is compatible with fairly long life. These cases, however, do not alter the fundamental fact that high blood pressure is not a bodily virtue. It is necessary to pick out the good cases from the bad so that one may be able to say to a given patient whether he has a chance to live long or whether an early death awaits him and that he had better make his will. In teaching, not enough attention has been paid to the art of prognosis. It is by the skill in this art that the public often judges the medical profession. Some of the means the physician has of foretelling the future of the hypertensive individual are indicated. One must always correlate the blood pressure with the age of the patient. Old persons bear high blood pressure better than the younger ones. The height of the systolic pressure is not a reliable criterion unless it is excessively high. The patient's whole constitution must be weighed in the balance. More important than the systolic is the diastolic pressure. A high diastolic pressure is a bad prognostic sign. Heredity to a great extent determines longevity. Longevity as well as its opposite is largely an inherited trait. Not enough attention has been paid to this by geneticists, but it is as striking a familiar trait as the color of the eyes, the conformation of the head, or any other physical feature. Therefore, in a hypertensive patient who exhibits nothing else of moment save the hypertension, the prognosis is favorably influenced if he comes of a long-lived family. Much can be learned about a patient's general prospects by studying his temper and the influences that play on it. Irascibility is not conducive to longevity in the face of hypertension. The more fully a physician explains these matters to his patients, the better will be their coöperation. From the physical standpoint the prognosis is influenced by the size of the heart, the state of the arteries, the kidney function, the eyegrounds and the coexistence of diabetes.—*Journal A. M. A.*

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OCTOBER, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

DO THE SIRES LIVE IN THE SONS?

Dr. W. J. Mayo said recently the practice of medicine apparently is satisfactory in Rochester if one judges by the number of children of members of the staff of the Mayo Clinic who are taking up the study of medicine. More than sixty-eight years ago his father, Dr. W. W. Mayo, who was a descendant of a long line of physicians, went to Rochester. Six members of his immediate family, two sons, and four grandsons, have carried on the tradition by entering the profession of medicine. This is all very interesting. It would be interesting also to know how sons react to their father's profession as a general rule, and, for us, how the situation in this regard prevails in Michigan. Sixty-six out of a total enrollment of 574, or approximately eleven per cent of the students of the University of Michigan Medical School, are the sons or daughters of physicians. Only four and two-fifths per cent of the students of the Detroit College of Medicine and Surgery at the present time are sons of physicians. Medicine is apparently an unpopular calling for members of physicians' families. Many doctors of our acquaintance are either noncommittal in advising their sons to go into medicine, or they advise strongly against it; and more particularly since state medicine is so much talked of, the older members of the profession, who have been accustomed to a life of independence, are inclined to take a somewhat pessimistic view in regard to the future of medicine.

DOCTORS WILL FOLLOW

The economic depression is having the effect of checking the tide of urbanization which has led to huge cities during the past few years. It is now *ruralization,* if we may be pardoned for coining a term. As the *Manufacturers Record* phrases it, "the breadline and the free soup kitchen are not features of farm life." Government records indicate that during 1930 a total of 1,392,000 persons left the towns and cities for the farms, the largest movement in this direction in ten years. The exodus from the farm to the city has declined proportionately. The farmer is assured of three meals a day and a place to sleep, and, to the advantage of those returning to the land, farms have not been so cheap in many years.

We have heard much about the unequal distribution of doctors and the tendency for the larger centers of population to be oversupplied, while in many rural localities it has been found necessary to subsidize physicians to get them to locate in the more sparsely settled portions of the country at all.

Should the trek to the farm become general, doubtless this very act of shifting population will automatically take care of the distribution of doctors.

ANTI-VIVISECTION

The anti-vivisectionist is ever active in endeavoring to put over his ill-advised views. This time he is circularizing the clergy of

the country. If all men of the ministerial profession treated anti-vivisectionsist propaganda as does Dr. Alvin E. Magary, formerly of Detroit but at present a resident of Brooklyn, the breed would soon be where they belong. Dr. Magary writes daily for the *Detroit Free Press* under the heading "I Rise to Remark." His "remarks" are always much to the point, but the following will appeal particularly to our members.

"There has come to my desk," writes Dr. Magary, "an impassioned pamphlet against vivisection. It calls on all ministers to aid in putting an end to this method of scientific investigation.

"I do not doubt that there are coarse-fibered men engaged in research who inflict horrible and needless torture on animals; but no discussion of the matter ought to be carried on without considering certain facts.

"Modern surgery prolongs thousands of lives and saves human beings from untold pain. It is based on discoveries which could not have been made without long-continued experiments on animals. Tissues can be transplanted, tumors in the skull removed, diphtheria, meningitis, typhoid, lockjaw prevented. A generation ago, diphtheria was the fear and horror of every doctor. It took children by hundreds, once it got started. A generation ago typhoid carried off 86 per cent of all the American soldiers who died in the Spanish-American war. Today these diseases are no longer in the class of plagues.

"It is a fine thing to defend the helpless. The man who does not love animals and befriend them is wanting in something fine and vital in his character. But facts are facts, and we do not help matters in this world by permitting our feelings and sympathies to run away with our brains.

"When someone you love lies on the operating table, and you realize that but for discoveries made through experiments on animals there could have been no anesthetics, you may think the pains suffered by dogs and cats and guinea pigs have not been in vain."

PRESIDENT DR. CARL F. MOLL

Dr. Carl F. Moll, made president-elect of the Michigan State Medical Society at the 110th Annual Meeting at Benton Harbor, now becomes president to succeed Dr. Ray C. Stone of Battle Creek, who has served as president the past year as the culmination of valuable services rendered the Society for a number of years. It was our pleasure to comment on the election by the House of Delegates of Dr. Moll (see page 932, Volume XXIX, this Journal). For the coming year the affairs of the Michigan State Medical Society will be piloted by a master hand. Dr. Moll is well fitted by temperament as well as experience for the position of President. We quote from the editorial in which we commented upon Dr. Moll's election: "One of Dr. Moll's friends writes: 'I have never heard from him an unkind word, or one in depreciation of a fellow practitioner; not that his attitude is negative, but because of a large charity for human failings and lapses. Concerning these, he is amused or silent, or he ignores them, but is never censorious.'" The friend mentioned was the late Dr. C. B. Burr.

Dr. Moll

The Journal joins in congratulations to the new president in what is a reciprocal honor—to Dr. Moll and to the Michigan State Medical Society.

TEN DOLLAR OBSTETRICS

The Public Welfare Commission passed a resolution recently to offer the doctors of Detroit who may be interested the sum of $10.00 each for confinements in indigent families. These cases had heretofore been cared for at the municipal hospitals at public expense and at a stated cost of $67.00 each, so that the care included hospitalization as well as the actual obstetric service. The offer is in the way of a temporary measure to aid in civic economy, which is so very

necessary in every department in the metropolitan city of the state. This has given rise to considerable discussion pro and contra among the members of the medical profession. Some maintain that it is impossible to attend confinements at this price and to do good work. This argument may be disposed of by the statement that a doctor or any other professional man is presumed to give of his best no matter whether his fee be $10.00 or ten times the amount. In other words the quality of a doctor's work should never depend upon the amount of money he receives. Such is true of but very few other occupations under the sun, but it is true of medicine. There is only one grade of service in medicine and surgery and that is the best that the trained physician and surgeon can render.

The fee is small. It might have been doubled and then have effected marked economy over such service as rendered by the municipality in a public hospital. Obstetrics is as a rule a poorly paid medical specialty when we consider its exacting nature, the responsibility assumed by the obstetrician and the demands upon his time. Often the skill required rivals or surpasses that required in many operations which are performed under ideal conditions in the domain of major surgery. The general practitioner to whom the majority of confinements fall may be said practically never to be paid in proportion to what his services are worth even should he receive all that he asks.

However, as we have said, this is an emergency measure and is not presumed to be any more than a tentative means of tiding over a distressing situation. While the state meets this small expense, we do not see that this is the entering wedge of state medicine. The fee is not sufficiently attractive to make it popular among the doctors during better times and it means now that the doctor who would be called upon to do this work will receive something rather than nothing at all.

It would seem to be almost entirely out of the field of the trained specialist in obstetrics who confines his attention entirely to this class of case. However, by those in large municipalities who are finding it a difficult matter to get started or to carry on during the lean months (I hope it will not be years) this $10.00 of sure money will doubtless be appreciated. As we understand, no concerted action has taken place in the Wayne County Medical Society, it being optional among the members whether they will accept this fee or not. We see less savoring of state medicine about it than were these cases to be cared for in a municipal hospital, which is state medicine or *civic* medicine, which is the same thing.

The members of the Welfare Commission, two of whom are prominent surgeons of the city, and members of the Wayne County Medical Society have endeavored to do something constructive towards helping out an unfortunate situation, and the proffered solution, while it may not be ideal, should not be lightly dismissed. We feel, however, that while the fee may be inadequate, it should not affect the quality of service. The doctor, all things considered, renders more gratuitous community service than any other person. What should be a community service in too many instances has been shelved upon the doctor to render gratuitously.

MEDICAL HISTORY OF MICHIGAN

It is less than a year since the second volume of the Medical History of Michigan appeared. This book has been reviewed by the Annals of Medical History, which is in a class by itself. The Annals of Medical History is probably the most high grade and ably edited periodical of its kind in the world. Anything therefore that the Annals would print in its reviews of books compels the attention of the most critical reader. It is with pleasure that we quote the following review of Volume II (Medical History of Michigan), which appeared in the July number of the Annals of Medical History.

"The first volume of this monumental record of the medical annals of Michigan was reviewed in the Annals of Medical History, 1:714, 1930. The second volume contains chapters on Controversies; Malpractice, Litigation and the Physician as a Witness, Medical Defense; A Medical Miscellany and Medley; Extra-Professional Activities; Women Physicians, which are rather a hodge-podge of more or less anecdotes. The chapter on the history of the Michigan State Medical Society and that on Some of the Active Medical Societies contain much valuable historical material. A notable section is that on the History of Hospitals and Nursing in Michigan, by Dr. Richard R. Smith.

Michigan has done much for its mentally deficient and diseased, and this subject is well handled by Drs. W. J. Kay and C. B. Burr. The concluding chapter deals with the military services rendered by the medical profession of Michigan in the va-

rious wars of the United States. There are a number of illustrations, chiefly of institutions. The Committee is to be congratulated on the completion of such a tremendous task in such a satisfactory manner. Its work has been most thoroughly done and these two volumes constitute a complete repository concerning the medical profession and medical institutions of the State. This volume contains a very complete index to the whole work."

ONE EFFECT OF THE STATE MEDICINE IDEA

A serious condition is confronting sick benefit or health insurance societies in Great Britain. The number of sick claims and the amounts spent upon them, in spite of the general improvement in public health and decline in death rate, are alarming in their upward trend. Sir Kingsley Wood, who was Parliamentary Secretary to the Ministry of Health in the last Government, said that there are several grave factors in the situation. Among them:

"The claims of married women have so seriously affected the funds of approved societies that they have been warned that, unless conditions improve to a marked extent, the whole of the present resources will be exhausted in a few years, in providing ordinary benefits. A number of societies who cater for married women have already been obliged to cancel their additional benefit claims altogether. The Government actually recently stated that the sickness benefit claims of the unmarried women have risen by no less than 60 per cent, and those of married women by 106 per cent. The disablement benefit claims of unmarried women have increased by 100 per cent, and those of married women by 159 per cent.

"In regard to men, it is the younger insured persons rather than the matured insured whose burden on the funds of approved societies has increased in recent years."

While the various benefit societies are not a part of the Government, so-called socialized medicine tends to paternalism, so that we have a disposition to milk anything that is free or easy, such as clinics or insurance benefits, for all they are worth.

ALFRED W. HORNBOGEN, M.D.

Hornbogen is dead. His life was taken by a gunman in prison and while Dr. Hornbogen was performing his duties in the prison hospital. He went as we feel he would like to go—on duty and while on service in discharging his professional duties.

Dr. Hornbogen was widely known to the profession of Michigan and had a large national acquaintance by reason of his many years of service in the House of Delegates of the American Medical Association. He was past president of his County Society, Upper Peninsular Medical Society and the State Medical Society. For a number of years he was physician or acting physician in the State prison at Marquette.

Dr. Hornbogen was a character reflecting a unique individuality. It was difficult at times to understand him. Yet as one penetrated his veneer there became apparent qualities of the highest. Basicly he was sincere and his ambitions were laudable. He made friends, he lost them and then regained them. That was his character and withal a character that was constructive in his community and the state. He did much, he gave much and materially aided in the solution of our problems and the furtherance of our policies.

"Horney," as he was familiarly known, is gone. We shall miss him. He served and in his peculiar way he achieved. His life was not in vain. We shall think of him as one who in his own way filled his niche in life and added to our common good a helpful, personal contribution.

F. C. W.

OTTO LEE RICKER, M.D.

Brief announcement of the death of Dr. Ricker was made in the last issue. For the purpose of permanent record this tribute is written for one who served and lived so well in our professional world.

Dr. Ricker graduated from the Detroit College of Medicine and Surgery in 1904. Following graduation he became associated with Dr. B. H. McMullen of Cadillac and continued in practice in that community till his death.

During these twenty-seven years he was faithful to all his responsibilities and conscientiously sought to serve his clientele to the best of his ability. Frequent visits to clinical centers and the pursuit of postgraduate work enabled him to remain abreast of scientific progress and to reflect it in his practice.

In organizational work he was ever to be found earnestly engaged. He served as secretary and president of his local society. He was a state delegate for many years. He served as Councilor from his district over a period of eight years. His professional life was characterized by an ever willingness and desire to uphold our traditions and to exemplify the traits that inspired confidence and respect.

Dr. Ricker was active in the communal

movements of Cadillac and lent his support to their advancement. He was a veteran of the World War and a working member in the local Legion post. A founder of the local Rotary Club, he maintained his membership obligations uninterrupted. In many ways Dr. Ricker affiliated himself with the contacts of life so that he created a place and attained a position that endeared him to his friends, his community and the profession of his state.

Dr. Ricker's death is a distinct loss which we fain would have postponed. He will be missed for we needed him yet awhile to better establish our ideals and principles. We shall revere his memory as one who exemplified the life of a true doctor of medicine.

F. C. W.

THE OLDEST BOOK IN THE WORLD

The oldest book in the world should have special appeal to the medical profession, inasmuch as it is a book on medicine. It is The Papyrus Ebers, written about 1550 B. C. Its contents, however, consist of bits of folklore, much of it having its origin from five to twenty centuries earlier than the date at which The Papyrus was written. Of this famous document Warren R. Dawson, in an interesting little book entitled, *Magician and Leech*, gives the history. It was found between the legs of a mummy in a tomb near Thebes, about 1862, when it was acquired by the Egyptologist Ebers, whose name it bears. It consists of a miscellaneous collection of extracts and jottings from at least forty different sources. Among them we have a large number of prescriptions for a number of specified diseases. There are sections dealing with diagnosis and symptoms and a passage of a physiological nature on the heart and its vessels. The concluding portion treats of wounds and abscesses and boils, so that The Papyrus may be looked upon as the first work on surgery.

The text of The Papyrus is a long scroll twelve inches wide and sixty-eight feet in length. It is written in red and in black ink and wonderfully preserved, in spite of its nearly 3,500 years of age. It is divided into pages of equal size of about twenty lines to a page. While the pages are numbered, they were not cut, so that the scroll was of the length stated. The document has since been cut into pages and mounted; it is in the Library at the University of Leipzig. Shortly after its discovery it was translated into German, but only recently has it been done into English.* Two facsimile copies were made, one of which is the property of the British Museum.

The volume before us gives not only copious extracts, but the translator estimates the influence of this work on medical history. The earlier parts of the Old Testament and the medical lore it contains, according to Professor A. S. Yahouda, was inspired by Egypt. The five books attributed to Moses show marked intimacy with the Egyptian influence. Moses himself was "the child of the Nile," and, according to this author, "the medical information in the Old Testament is essentially identical with that of The Ebers Papyrus."

As we have said, The Papyrus Ebers is devoted to medicine, with also an addendum that may be looked upon as the first treatise on surgery. The diseases included range from the sting of a wasp to the bite of a crocodile. The ancient Egyptians were evidently very particular about their personal appearance, for considerable space is given to cosmetics. There are recipes to kill scorpions and lizards, to charm away fleas, lice and mice, to soothe the crying baby. There are eight hundred and eleven prescriptions in the ancient document, which are dispensed in the form of salves, plasters, poultices, snuff, inhalations, gargles, draughts, confections, pills, fumigations, suppositories and enemata. They range from prescriptions of only one ingredient to those comprising as many as thirty-seven ingredients; many of them are apparently harmless, if without therapeutic effect. A significant thing is that the ancient Egyptians were the first to form an acquaintance with that god of drugs, castor oil. From the English translation we quote as follows:

> Memorandum on the use of the castor oil tree (as found in the ancient writings of the wise men).
>
> When a Person rubs its Stalk in Water and applies it to a Head which is Diseased, he will immediately become as if he had never been ill.
>
> When a Person who suffers from Constipation chews a little of its Berry along with Beer, then the Disease will be driven out of the Sick One's body.
>
> Also, a Woman's Hair will increase in growth by using the Berries. She crushes them, makes them

*The Papyrus Ebers, translated from the German version by Cyril P. Bryan, M.D., Demonstrator in Anatomy, University College, London, with an introduction by Prof. G. Elliott Smith. D. Appleton and Company, New York.

into one, puts them in Oil, and anoints her Head therewith.

Furthermore, the Oil from its Berries is pressed out as an Ointment for the use of any Person who has the uhe-abscess-with-stinking-matter. Lo, the Evil will fly as though he had suffered nothing! For Ten Days he anoints himself afresh daily in the morning in order to drive the abscess away.

Doubtless castor oil alone was one of the best single drugs in the service of ancient man, and particularly useful where restoration to health depended upon the functional process of elimination; but the Egyptians went farther. They drew their materia medica not only from the mineral and vegetable, but also from the animal world. Whenever they got hold of a substance which seemed to them to possess even the slightest therapeutic virtue they prescribed it internally and externally, raw and cooked, ripe and unripe, and often in an actually decayed condition.

Ryan selects some of the remedies, the therapeutic action of the most of which would be difficult to explain, in the light of our modern knowledge.

"Imagine (if you can)," he says, "a poultice consisting of the Zizyphus Lotus, Watermelon, Cat's dung, Sweet Beer, and Wine; or a mixture of Rotten Flesh, Herbs-of-the-Field, and Garlic, cooked in Goose-oil and swallowed for four days against Debility; or a Hair-restorer composed of Vulva, Phallus, and Black Lizard; or a Hair-dye concocted of the Womb-of-a-Cat warmed in Oil with the Egg-of-the-gabgu-bird; or another Hair-dye which combines a Tape-worm with the Hoof-of-an-Ass and the Vulva-of-a-Bitch; or a mixture of Opium and Fly-dirt-which-is-on-the-Wall, to soothe a crying child; or a Face-cream of Bullock's Bile and Ostrich Egg, beaten up with Fresh Milk; or a diuretic of Water-from-the-Bird-Pond, Swill-of-Beer, and Fresh Milk; or a purgative consisting of an Onion beaten up in Froth-of-Beer; or a draught composed of the one-thirty-second part of the Tail-of-a-Mouse with Honey, one-third, for cooling the anus; or another equally useful draught prepared by whipping up the Film-of-Dampness-which-is-found-on-the-wood-of-Ships in Froth-of-Beer, for Falling of the Womb; or a mixture of Scrapings-of-a-Statue and Mint-of-the-Mountains, cooked in Oil and Wax, to be taken for four days to 'protect against everything.'"

Kipling must have had something like this in mind when he wrote:

"Excellent herbs had our fathers of old—
Excellent herbs to ease their pain—
Alexanders and Marigold,
Eyebright, Orris, and Elecampane,
Basil, Rocket, Valerian, Rue,
(Almost singing themselves they run)
Vervain, Dittany, Call-me-to-you-
Cowslip, Melilot, Rose-of-the-Sun.
Anything green that grew out of the mould
Was an excellent herb to our fathers of old.
Wonderful little, when all is said,
Wonderful little our fathers knew.
Half their remedies cured you dead—
Most of their teaching was quite untrue.
Look at the stars when a patient is ill,
(Dirt had nothing to do with disease)
Bleed and blister as much as you will,
Blister and bleed him as oft as you please.
Whence enormous and manifold
Errors were made by our fathers of old."

Egyptian therapeutics, however, was not entirely irrational. They had learned the proper use of a number of drugs that are employed today. Constipation, considered a disease of the modern world induced by modern living conditions, appears to have been just as prevalent among the ancient Egyptians, for we have the following: "Remedy to clear out the body and to get rid of the excrement in the body of a person."

Berries of the castor oil tree
Chew and swallow down with Beer in order to clear out all that is in the body.

Numerous prescriptions are given which space will not permit. This is a sample:

Prepare thou well this purgative. Hereafter it is used against the constipated body.

Herbs-of-the-Field	1
Gengent-beans	1
Aneb-plant	1
Bread-dough	1

Pound, make into one, make four cakes thereof, and let him eat.

They evidently learned also how to treat diarrhea (the symptoms at least) for we find frequent use made of the poppy plant. Onions and figs were freely used in the treatment of constipation and not without reason. The therapeutic effect was due in the first to the roughage and the second to the mild irritant. Onions and dates figured in no small way as remedies for various forms of indigestion.

The section on minor surgery shows the ancient Egyptian very conservative in the use of the scalpel.

Among the other subjects dealt with are the urinary system, diseases of women, of the skin, eyes, ear, nose and mouth, the nervous system, the heart and circulatory system, the hair, the AAA disease, which the translators interpreted as Bilharzia. The remedies and methods of treatment in all these diseases are equally bizarre.

With the early Egyptians there was no conflict between the rational and the magical. Things which to us are magic were purely rational in the minds of primitive

people. In these early times (to which the Ebers Papyrus refers) there was no distinction between science and religion, or between reason and magic. According to Dr. G. Elliott Smith, when the validity of the general principle was no longer tenable, practices which had a stronghold on the imagination persisted. He tells of how he found the remains of mice in the stomachs of small children buried in a predynastic cemetery in Upper Egypt. The mice had been skinned and fed to the children as a remedy just before death, nearly sixty centuries ago. It was believed that the mouse was a life giving substance because they were seen to emerge from the cracks in the sun baked mud after the receding of the overflow of the Nile. To the ancient Egyptians they represented the life-giving virtues of the river. Hence these mice were regarded as one of the most effective elixirs of life, and therefore the proper remedies in emergencies. Professor Smith goes on to relate that in England today this practice prevails among thousands of people who have no notion of the origin of the custom of giving mice to sick children as remedies *in extremis*. The giving of a mouse would be considered a magical procedure, though it appeared to the ancients a perfectly rational act. What we call magic is simply the persistence of fallacies which were at one time rational applications of a general belief. Many of the absurd methods of treatment found in The Papyrus Ebers may be so explained. They represent the attempts of these early people to understand disease and to discover rational means of treating it.*

INFANTILE PARALYSIS

Bulletins are being issued from week to week describing the situation of the infantile paralysis epidemics. We will not presume to duplicate the information furnished our readers by these weekly bulletins. Attention is called, however, to the contribution by the Department of Health of Michigan which appears in this number of the Journal, which outlines in detail the work of the commission appointed to study the situation.

*Introduction to Papyrus Ebers (Ryan) by Professor G. Elliott Smith.

A TRIUMPH OF CHEMISTRY

"In view of the marvellous things that are being done now," ponders a noted chemical engineer, "one begins to wonder just how long it will be before a man takes a tablet out of his pocket, swallows it, and has his meal for the day." This bit of reverie has prompted the poet of the Manchester Guardian to court his muse with the following result:

I had some pills in a box to-day—
  And I've just remembered the painful fact
That these tablets neat that I stowed away
  Were somewhat unwisely stored and packed;
For some were pills for my stomach's sake
  (The doctor sent them to cure the bile),
And some were meals that I meant to make
  In the chemical, compact, modern style.

You take a pill with a timely gulp—
  And a five-course dinner goes down complete;
It's all reduced to a chemical pulp
  And all correct from the soup to sweet.
But you see how awkwardly I am fixed,
  The situation is far too rich—
For I got my meals and my medicine mixed
  And I haven't a notion of which is which.

I swallowed something an hour ago
  To fill a void that began to ache,
But to judge by feelings from down below
  I fancy I've made a profound mistake.
Now a-lack-a-day and woe is me!
  I'm really feeling distinctly ill—
And I don't know whether I've had my tea
  Or taken an indigestion pill!

NORTHERN TRI-STATE MEDICAL SOCIETY

The Northern Tri-State Medical Society, which includes Michigan, Ohio and Indiana, is one of America's oldest medical organizations, also one of the most democratic, in this or any country.

The Northern Tri-State Medical Society was born and organized in 1873, and for a number of years its meetings were held semi-annually. About twelve years ago that custom was discontinued; since then the meetings are held only once a year—in April.

The Northern Tri-State is an outgrowth of a still older organization, the Southern-Michigan Medical Society, which for a number of years (prior to 1873) held its regular meetings in borderline towns and villages of Southern Michigan. These meetings were such in character as to attract physicians from Northern Ohio and Indiana, who became regular attendants. The meetings were always held on the first Tuesday of the month following the full moon. This custom is still being followed.

The reason for originally holding meetings under this particular arrangement was that in those early years modes of travel were slow and roads often difficult for driving, so by holding the meetings upon the first Tuesday following the full moon it was not only easy to remember the date, but since the meetings were for the one day only and lasted until late that night, those who attended could return home on horseback, aided by moonlight.

The meeting will be held at Toledo, Ohio, on the first Tuesday following the full moon of April, 1932, with Dr. Carl Dudley Camp, of Ann Arbor, Michigan, president for the year. A bumper attendance and splendid program is anticipated, though it is not expected that many will travel to and from on horseback, though some of us may have to walk.

Note: The editor is indebted to Dr. George Van Amber Brown of Highland Park for this interesting bit of history.

DUODENAL ULCER AMONG PHYSICIANS: TREATMENT IN 100 CASES*

H. R. Hartman, M.D., Division of Medicine: Without accusing our profession of over-enthusiasm for any kind of treatment, the question to be considered is how would physicians who are afflicted with duodenal ulcer react to the usual advice given to the laymen? One hundred physicians who have been suffering with ulcer for at least one year were studied. Results in this group have been compared with results Balfour obtained by operating on 100 physicians, and with the results obtained by medical treatment for ulcer of ninety-five lay patients. The average age in Balfour's group was forty-seven years, with an average duration of symptoms of thirteen years. In 40 per cent of the cases hemorrhage had occurred, and in 32 per cent, obstruction. Satisfactory results were reported in 90 per cent after one operation. Of the 100 physicians who selected their own treatment, the average age was forty-six and two-tenths years, and the mean duration of symptoms, nine and one-tenth years. Among ten of these who came to operation the average duration of symptoms was identical to that in Balfour's group; namely, thirteen and one-tenth years. Among those who were not treated surgically, the average duration of symptoms was eight and seven-tenths years. Chronicity appeared to be a deciding factor for operation. Three of the ten patients who submitted to operation had hemorrhage or suspected perforation, and among the ninety who did not submit to operation hemorrhage occurred in nine cases, and suspected perforation in seven. These complications were lacking among medically treated laymen.

Of the physicians who were given various forms of medical treatment seventy-three (81 per cent) were satisfactorily relieved. Balfour obtained relief in 90 per cent. Of the ninety-five lay patients who underwent medical treatment in a hospital, seventy-one (74 per cent) were reported as improved. These results are similar. Although chronicity apparently plays a larger part in choice of treatment than do the usual complications of ulcer, study of all the evidence leads one to conclude that conservatism dominates among physicians in selecting treatment. Nevertheless, if other means of relief fail, operation, with its good results, probably will be sought.—*From proceedings of the Staff Meetings of the Mayo Clinic.*

"The possibility that a man may be able to ripen his own time—which I hasten to add is not a fancy of my own—is worthy of thought. One traces the conception of contagium vivum to early times; and the soporific sponge used at the School of Salerno was an ancient tradition. No idea is wholly new; what is new is getting people to adopt it and to act upon it. We know from his Notebooks that Leonardo fairly bristled with novel ideas, but, whether from indifference or inability, failed to register them on his contemporaries. He was probably a more observant and skillful dissector than the youthful Vesalius, who, however, had the vigour and determination, when the world was content with Galen, to enforce upon his contemporaries the ripening of modern anatomy. And so did Harvey for modern physiology, though instead of a huge folio it was a small, badly printed tractate of seventy-two pages full of typographical errors which turned the trick—and incidentally ruined his practice."—Dr. Harvey Cushing, *The New England Journal of Medicine.* June 11, 1931.

*Abstract of paper presented before the meeting of the Panamerican Medical Association, Mexico City, Mexico, July 26-31, 1931.

DEATHS

DR. MICHAEL C. CRONIN

Dr. Michael C. Cronin of Mt. Clemens died suddenly at Grace Hospital, on August 12, at the age of seventy-four. He had been ill for four weeks before his death. The cause of death was heart disease. Dr. Cronin came to Mt. Clemens from Bangor, Michigan, thirty-two years ago. He had never fully recovered from injuries received in a train wreck in Kentucky four years ago. Dr. Cronin was a 32nd degree Mason and a member of the Mt. Clemens Lodge of Masons. He is survived by his widow and two daughters.

GENERAL NEWS AND ANNOUNCEMENTS

The American Medical Association will meet in New Orleans the week of May 9, 1932.

Dr. D. S. Brachman, Detroit, returned the middle of September from a several weeks' visit to European clinics.

Dr. F. C. Warnshuis, Grand Rapids, was elected vice-president of the Aero-Medical Association at the annual meeting held in Kansas City September 6 to 8. The next annual meeting will be held in Cleveland.

ANNUAL MEETING NOTES

J. Milton Robb, Detroit, President-elect.
H. J. Pyle, Grand Rapids, Re-elected Speaker.
Retiring Councilors re-elected.
Kalamazoo place of next meeting.
House of Delegates will hold a special meeting before February 1 in Jackson.
Complete minutes in next issue.

DETROIT MEDICINE IN THE 80'S AND 90'S

"Recollections of Detroit Medical Life in the 80's and 90's" is the title of a very interesting story by Dr. Hugo Erichsen of Birmingham, Michigan, which appeared in the Summer (1931) number of the Michigan History Magazine, a quarterly published by the Michigan Historical Commission, Lansing. The paper gives interesting reminiscences of a number of the leading physicians and surgeons of the time, most of whom are known only to those practicing today who have passed the half century mark. The article contains an illustration of the Detroit Medical College of that time, as well as pictures of Drs. E. A. Chapoton, Eugene Smith, Theodore A. McGraw, E. L. Shurly, F. A. Spalding, A. E. Currier, H. O. Walker, J. H. Carstens, N. W. Webber, America's oldest medical organizations, also one of the and a silhouette of Dr. Erichsen himself.

DR. G. VAN AMBER BROWN LOCATES AT EDINBURG, TEXAS

"The decision of Dr. George Van Amber Brown to make Edinburg, Texas, his future home (after September 1) means the loss to the Wayne County

Medical Society of one of its most active and influential members.

"In his thirty-odd years of practice Dr. Brown has always evinced a keen interest in scientific medicine and has in addition contributed much time and effort for the benefit of organized medicine. Always a champion of the young man, he organized the Noon Day Study Club in the fall of 1927, and has had the pleasure of watching it grow in size and importance to become one of the most prominent activities of The Society. His service as president during 1927-28 was characterized by constant and unstinting effort in behalf of the membership, for which he was rewarded by being elected a trustee. In this capacity he has continued to render meritorious service for the past three years.

"His affiliation with the Highland Park Physicians' Club and the prominence and power which he brought to that organization when, as its president, he initiated what is now a highly popular one-day annual clinic, will long be remembered.

"Dr. Brown has the thanks and appreciation of all the members for his many efforts in their behalf, and while his decision to leave Wayne County is deeply regretted, he has their sincere wishes for success and good fortune in his new home in Texas." —Wayne County Medical Bulletin.

CHILD HEALTH COMMITTEE

Governor Brucker on September 10 named the members of the medical profession and others who are to constitute a child welfare advisory council whose duty it should be to correlate State agencies in accordance with recommendations of the National White House Conference which was assembled by the President in Washington in 1930. The state advisory council will hold a meeting in Lansing on November 10. The following are the members of the medical profession of the State who are members of this committee:

Dr. Ray C. Stone, Battle Creek; Dr. R. E. Patterson, Detroit; Alexander G. Ruthven, president University of Michigan; Dr. Frederick G. Novy, Ann Arbor; Dr. J. D. Bruce, Ann Arbor; Dr. John Sundwall, Ann Arbor; Robert S. Shaw, president Michigan State College; Dr. R. M. Olin, East Lansing; Dr. W. H. MacCraken, Detroit; Dr. Henry F. Vaughan, Detroit; T. J. Werle, Lansing; Miss Amy Beers, Muskegon; William J. Norton, Detroit; Dr. B. W. Carey, Detroit; Dr. Stuart Pritchard, Battle Creek; Dr. R. B. Harkness, Houghton; Chalmers J. Lyons, Ann Arbor; Dr. Louis J. Hirschman, Detroit; Dr. George J. Curry, Flint; Dr. Karl D. Brucker, Lansing; Dr. Richard R. Smith, Grand Rapids; Dr. J. D. Brook, Grand Rapids; Dr. C. A. Neafie, Pontiac; Dr. W. F. English, Saginaw; Dr. J. H. Powers, Saginaw; Dr. Frank P. Bohn, Newberry; Dr. J. G. R. Manwaring, Flint; Dr. A. M. Campbell, Grand Rapids; Dr. C. G. Jennings, Detroit; Dr. Thomas B. Cooley, Detroit; Dr. Angus McLean, Detroit; Dr. B. R. Shurly, Detroit; Dr. H. M. Joy, Calumet; Dr. John Harvey Kellogg, Battle Creek; Dr. R. L. Dixon, Lapeer; Dr. J. T. Upjohn, Kalamazoo; H. Haskell, Northville.

MULTIPLE MYELOMA AND DIABETES INSIPIDUS

Mark J. Bach, Milwaukee, and William S. Middleton, Madison, Wis., report an instance of the coincidence of gross pathologic changes in the bones and diabetes insipidus. Of particular significance were the possible changes in bony structures about the sella. Whatever the interrelationship between the bony lesions and the disturbance in water metabolism, a further example is added in the case of multiple myeloma with associated diabetes insipidus. —*Journal A. M. A.*

COMMUNICATIONS

City of Detroit
Department of Public Welfare
August 28, 1931

Dr. F. C. Warnshuis, Secretary
Michigan State Medical Society
1508 G. R. National Bank Bldg.
Grand Rapids, Michigan

Dear Dr. Warnshuis:

I think this bulletin is extremely valuable, so much so that I sent one copy immediately to our Admitting Room to be read by all of the doctors on duty there, and the additional copies were requested in order that I might have one for each of our forty-two residents and interns and for the nursing supervisors. This bulletin is particularly valuable in the case of poliomyelitis on account of the fact that the early symptoms are so frequently overlooked or misinterpreted and I think this activity on the part of the State Society is very much worth while and could be extended to a considerable extent.

Your very truly,
E. T. Olsen, M.D.,
Superintendent.

Michigan
Crippled Children Commission
Lansing, Michigan
August 19, 1931

Dr. F. C. Warnshuis
Secretary, State Medical Society
Grand Rapids, Michigan

Dear Dr. Warnshuis:

I have been requested by Dr. F. C. Kidner, Chairman of the Michigan Orthopedic Association, to send to you the following resolution passed by that Association and presented to the Michigan Crippled Children Commission for action on July 24, 1931:

"It has come to the attention of the Michigan Orthopedic Association that cases of recent simple fractures have been cared for by members of the Association under the Crippled Children Act.

"At a meeting of the Association held on Friday, July 17, this matter was discussed, and while the care of recent fractures forms a large proportion of the cases handled by orthopedic surgeons in private practice, it was felt that these cases would hardly fall under the heading of 'Crippled Child.' It was decided, therefore, to recommend to the Michigan Crippled Children Commission that our Association felt that the care of recent uncomplicated fractures would not fall under the heading of 'Crippled Child' and consequently would not be cases to be cared for by the members of the Michigan Orthopedic Association under the Crippled Children Act."

The Commission had under consideration at its meeting on July 29 several other matters of policy and procedure and they were all covered by a motion duly presented and carried that *Rules and Regulations for the Conduct of the Business of the Commission* as required by Section 11 of Act 236 of 1927 be prepared and adopted by the Commission.

I might say further that these rules and regulations are now being prepared and will undoubtedly be considered and possibly approved at a meeting to be held in Battle Creek, probably on September 18.

Sincerely yours,
Harry H. Howett,
Secretary-Treasurer.

Marquette, Michigan
August 26, 1931

F. C. Warnshuis, M.D.
Secretary, State Medical Society
Grand Rapids, Michigan

My dear Fred:

At the recent meeting of the Upper Peninsula Medical Society a resolution was passed to have a gavel made and presented to the speaker of the House of Delegates of the A. M. A., at the next session.

Dr. A. W. Hornbogen was elected to present the gavel at the next meeting to be held at New Orleans.

Owing to the fact that I consider that the U. P. gavel and the one used by the speaker of the House of the State Medical Society is too small, I therefore made arrangements to have a larger one made from one piece of copper. Owing to the fact that it would be too heavy, and instead of breaking the gavel as has been done in past years, you would undoubtedly break the table, I am having the head of the hammer hollowed out in order to make it lighter.

I am anxiously awaiting the September number of the Journal in order to see what the program is for the coming meeting at Pontiac.

With kind personal regards I remain,

Your friend,

A. W. Hornbogen.

Ogdensburg, New York
August 31, 1931

Frederick C. Warnshuis, M.D.
Grand Rapids, Michigan

My dear Doctor:

I am shocked and grieved to hear of the tragic death of Doctor Hornbogen.

The doctor was such a sturdy, aggressive type, that his personality always appealed to me. He had, as all humans do, imperfections, but he always interested me, and "Hornbogen of Michigan" will be missed in the House of Delegates. His is the third death in the members of the House of Delegates in attendance at the Philadelphia meeting.

Thanking you for writing me, I am

Very sincerely yours,

Grant C. Madill.

Detroit, Michigan
August 31, 1931

Dr. F. C. Warnshuis, Secretary
Michigan State Medical Society
Grand Rapids, Michigan

Dear Fred:

A week ago I received a request from Mr. Harry H. Howett of the State Commission for Crippled Children, asking that we assign Dr. J. T. Hodgen to the Muskegon clinic on October 14. I immediately wrote to Mr. Howett assigning Dr. Hodgen, explaining that all the orthopedic surgeons agree that it is foolish to send anybody but Dr. Hodgen to clinics in the immediate neighborhood of Grand Rapids.

Your request made to me some time ago for a statement of faith by the orthopedic surgeons, as regards fractures, was immediately acted upon. A meeting was held in my office, at which were present the orthopedic surgeons including Dr. Hodgen, and we unanimously agreed that acute fractures should not be cared for by the orthopedic surgeons under the State Commission for Crippled Children. At the same meeting was present Mr. H. E. Van de Walker, Chairman of the State Commission, and he suggested that we send our conclusions in regard to acute fractures, in the form of a statement, to the State Commission.

This statement said, in effect, that we did not feel that acute fractures came under the Crippled Children Act, but that this in no way prejudiced our right to care for acute fractures in our private practices. Mr. Van de Walker stated that he would bring this matter before the full Commission and would send you an official notice on the attitude of the Commission which would be guided by the orthopedic surgeons' action.

Therefore, I believe that in a reasonable time, you will have an official statement from the Commission which will clear up the difficulty.

Sincerely yours,

F. C. Kidner.

EULOGY TO DR. RICKER

DR. HUME ADDRESSES ANN ARBOR RAILWAY SURGEONS

To Company Surgeons: It is with a feeling of deep sorrow that we announce the passing away at Butterworth Hospital, Grand Rapids, on Thursday last, of Dr. Otto L. Ricker, who, since 1906, has been our company surgeon at Cadillac.

The Doctor had not been in good health for several months, though in his always faithful and uncomplaining way, he had carried on his extensive professional duties almost up to the time of his entering the hospital, about two weeks prior to the time of his death.

On August fifth he underwent a most serious operation, which, though most skillfully performed, revealed the hopelessness of final recovery; there being found advanced cirrhosis of liver and spleen and other serious complications.

The funeral services were held in Cadillac last Saturday. The large Church auditorium filled with friends who knew him best and loved him most—many of them from miles away; the rendering of a few of the old fashioned songs that the Doctor loved best; the frank but eloquent statement by his pastor of what the Doctor had been to, and had accomplished in, the community life of Cadillac; the solemn quietness of the city and of the multitude of people on the streets, who stood at attention as the funeral cortege, escorted by the American Legion, the Boy Scouts and others, slowly wended its way to the final resting place, and then, after the commitment, and with hundreds standing at attention and in silence, the military salute and "taps"—all these things told of what Dr. Ricker's public, professional, and private life had meant to the community in which he had so long lived and served.

Respectfully yours,

Dr. Arthur M. Hume, *Chief Surgeon.*

Owosso, Michigan, August 17, 1931.

APPROVES OF OUR EFFORTS

Editor, Journal Michigan State Medical Society:

I have had many opportunities during the last year and a half to review the contents of representative State Medical Journals. I have tried to do this critically but fairly in comparison with our own State Journal. It has been easily discernible by those who have read our State Journal the high character of its editorial pages. One cannot come to any other conclusion than that the Michigan State Journal stands well to the front in the ranks of its kind and as far as its editorial pages are concerned, there is none better. While I speak in an unofficial capacity, I am sure that our membership in Wayne County joins with that of the State at large with pride in your achievement. Personally I offer you my sincere congratulations.

H. Wellington Yates,
President-Elect, Wayne County Medical Society.

Detroit
August 20, 1931.

SOCIETY ACTIVITY

NEWS ITEMS

The minutes and list of new officers will appear in the November Journal. This issue went to press before our annual meeting convened.

The Board of Registration will hold its annual meeting and examinations in Lansing on October 13, 14 and 15.

A letter received by Dr. J. D. Brook, Michigan delegate to the American Medical Association, from the Washington State Medical Association, gives the information that the latter organization has adopted in full the resolution pertaining to fees for insurance reports, presented by the Michigan State Medical Society to the House of Delegates of the American Medical Association at Philadelphia in May. Gradually, we are adding to our list other states who are favorable to the action taken by Michigan. It is expected that a preliminary report will soon be forthcoming from the Bureau of Medical Economics of the American Medical Association to which the question was referred.

POLIOMYELITIS ACTIVITY

On August 20, telephone information came from Lansing expressing apprehension that a poliomyelitis epidemic was threatening. It was intimated that the State Society might render effective assistance by warning the doctors to be alert and endeavor to make an early diagnosis in suspected cases.

This coöperation and assistance to the state department of health was immediately accorded in the following manner:

Within twenty-four hours a Poliomyelitis Bulletin containing a table of diagnostic symptoms and a request that members be alert when called to suspicious cases was mailed to 3,800 doctors.

Representatives of the Society met with the Commissioner of Health for the purpose of instituting preventive plans, consultant services and laboratory assistance and the formation of a state commission.

On August 24 it was deemed desirable to hold an Educational Clinic and such a clinic was arranged for on the twenty-seventh. Again within twenty-four hours 3,800 cards were sent to our members notifying them of this Clinic and the program that would be carried out.

From the letters received and the response made by our members we feel that this mobilization of doctors throughout the state created a corps of men who were on the alert to abort what promised to be an epidemic of considerable magnitude. It also revealed the Society's willingness to respond to and coöperate with health officials. This response re-affirms the statement frequently made that the greatest success of any health movement or activity is dependent upon the coöperation of the practicing physician—the bedside doctor.

The following letter is characteristic of the letters received:

Detroit, Michigan
August 26, 1931

Dr. F. C. Warnshuis
148 Monroe Avenue
Grand Rapids, Michigan

Dear Dr. Warnshuis

I wish to express to you, and the other members of the Council, my personal appreciation for the timely letter of warning regarding the present epidemic of poliomyelitis, which came to my desk the other day.

After thoroughly reading the same I placed it in my pocket to take home and save in the event of a future illness in the family. On my arrival at home I found that my oldest daughter became ill about noon and presented almost a typical picture as suggested by the list of symptoms. While I might have recognized the symptoms, the emphasis placed upon it by the pamphlet received certainly brought it more forcibly to my attention and probably saved many hours in obtaining the necessary medical attention, which Dr. Gordon is now instituting.

With best wishes, I remain,

Sincerely yours,

Claire L. Straith.

COUNCILOR McMULLEN

On August 28, President Stone, upon the unanimous nomination of the county societies constituting the Ninth Councilor District, appointed Dr. Harlan McMullen of Manistee as Councilor of that district to serve the unexpired term of Dr. Ricker, deceased. The district and state society are to be congratulated in securing Dr. McMullen to so serve as he is endowed with many professional and personal qualifications that admirably fit him for the office.

Dr. McMullen was born in 1880. He graduated from the University of Michigan Medical department in 1906 and has en-

gaged in practice in Manistee since that date. He has remained abreast of the times by attendance at state and national medical meetings, clinics and postgraduate work. He

Dr. Harlan McMullen

plays a reasonable game of golf, rides horseback almost daily and evidences keen interest in the communal life of his home city.

LAW GOVERNING ABORTIONS

On September 17, 1931, a change in the Michigan Criminal Code which refers to abortion became effective. The present law reads:

16740.—"Death of child or mother from unlawful attempt to destroy child, act deemed manslaughter. Sec. 33. Every person who shall administer to any woman pregnant with a quick child, any medicine, drug or substance whatever, or shall use or employ any instrument or other means, with intent thereby to destroy such child, unless the same shall have been necessary to preserve the life of such mother, or shall have been advised by two (2) physicians to be necessary for such purpose, shall, in case the death of such child or of such mother be thereby produced, be deemed guilty of manslaughter."

16741.—"Attempt to procure miscarriage; penalty. Sec. 34. Every person who shall wilfully administer to any pregnant woman any medicine, drug, substance or thing whatever, or shall employ any instrument or other means whatever, with intent to procure the miscarriage of any such woman, unless the same shall have been necessary to preserve the life of such woman, or shall have been advised by two (2) physicians to be necessary for that purpose, shall, upon conviction, be punished by imprisonment in a county jail not more than one (1) year, or by a fine not exceeding five hundred (500) dollars, or by both such fine and imprisonment."

16742.—"Attempt to destroy unborn child or procure miscarriage; sufficiency of proof. Sec. 35. In case of prosecution under sections thirty-three (33) and thirty-four (34) of this chapter, it shall not be necessary for the prosecution to prove that no such necessity existed, or that the advice of two (2) physicians was not given."

16885.—"Medicine or drug to procure abortion; advertisement or sale prohibited. Sec. 1. The People of the State of Michigan enact, that no person shall in any manner, except as hereinafter provided, advertise, publish, sell, or publicly exposed for sale any pills, powders, drugs, or combination of drugs, designed expressly for the use of females for the purpose of procuring an abortion."

16886.—"Same; lawful sale; prescription record. Sec. 2. Any drug or medicine known to be designed and expressly prepared for producing an abortion, shall only be sold upon the written prescription of an established practicing physician of the city, village, or township in which the sale is made; and the druggist or dealer selling the same shall, in a book provided for that purpose, register the name of the purchaser, the date of the sale, the kind and quantity of the medicine sold, and the name and residence of the physician prescribing the same."

16887. "Penalty. Sec. 3. Any person violating any of the provisions of this act shall, upon conviction thereof, be punished by a fine of not less than twenty-five (25) nor more than one hundred (100) dollars in the discretion of the court."

The new statute which repeals the present law will read:

Section 14. "Administering drugs, etc., with intent to procure miscarriage: Any person who shall wilfully administer to any pregnant woman any medicine, drug, substance or thing whatever, or shall employ any instrument or other means whatever, with intent thereby to procure the miscarriage of any such woman, unless the same shall have been necessary to preserve the life of such woman, shall be guilty of a felony, and in case the death of such pregnant woman be thereby produced, the offense shall be deemed manslaughter."

(Felony is punishable by four (4) years in state's prison, as a maximum; manslaughter is fifteen (15) years.)

"In any prosecution under this section, it shall not be necessary for the prosecution to prove that no such necessity existed."

Section 15. "Selling drugs, etc., to produce abortion: Any person who shall in any manner, except as hereinafter provided, advertise, publish, sell or publicly expose for sale any pills, powder, drugs or combination of drugs, designed expressly for the use of

females for the purpose of procuring abortion shall be guilty of a misdemeanor."

(Misdemeanor is punishable by imprisonment in a county jail for ninety (90) days or one hundred (100) dollars fine, as a maximum.)

"Any drug or medicine known to be designed and expressly prepared for producing abortion, shall only be sold upon the written prescription of an established practicing physician of the city, village, or township in which the sale is made; and the druggist or dealer selling the same shall, in a book provided for that purpose, register the name of the purchaser, the date of the sale, the kind and quantity of the medicine sold, and the name and residence of the physician prescribing the same."

The new statute covers abortion upon the pregnant woman in any stage, instead of "woman pregnant with quick child," as stated in the present law. This modification will sustain a charge of manslaughter if the woman dies from abortive treatments. The penalty has also been changed, making certain abortions a misdemeanor, such as the selling, advertising and providing of things, etc., for the use of a woman in procuring an abortion.

H. S. C.

COUNTY SOCIETIES

GRAND TRAVERSE-LEELANAU COUNTY

The Grand Traverse-Leelanau County Medical Society met at the Traverse City Golf and Country Club on June 30, 1931.

The meeting was in the nature of a testimonial dinner for Dr. G. F. Inch, who is being transferred to take charge of the new State Hospital at Saline.

The following members sat down to a wonderful steak dinner: Drs. Kernkamp, Swanton, Rinear, F. Holdsworth, Hastings, Inch, Kyselka, Flood, Gauntlett, Swartz, Smiseth, Thompson, Holliday, Brownson, Murphy, Sheets, Sladek, and Thirlby.

Dr. Fred R. Thacker of Frankfort was elected to membership.

For representation during the annual meeting of the Michigan State Medical Society, the following members were elected: Delegate, Dr. E. F. Sladek; alternate, Dr. S. E. Smiseth.

Dr. Rinear invited the society to hold its summer picnic meeting at his cottage on Spider Lake. This was accepted.

Dr. L. Swanton made a very fine and appropriate speech in presenting Dr. Inch with a silver coffee service. In Dr. Inch's response, he said that he has enjoyed his stay with us and greatly regretted leaving.

The meeting adjourned at a late hour.

E. F. Sladek, *Secretary.*

HILLSDALE COUNTY

The regular meeting of the Hillsdale County Medical Society was held at the Country Club, Hillsdale, Michigan, Tuesday, August 4, 1931. In the absence of both the President and Vice President, Dr. Poppen was chosen President pro tem, and called the meeting to order.

The minutes of the last meeting were read and approved.

The tribute to Dr. Sawyer which appeared in the Journal of the Michigan State Medical Society was read and it was moved by Dr. Green and supported by Dr. Miller that it be spread upon the minutes of the society. Carried. Dr. Wade of Coldwater speaking for the Branch County Society cordially indorsed the tribute.

Dr. Poppen then introduced Dr. S. B. Frankhauser of Hillsdale, who had just returned from attending the International Rotary Convention at Vienna, to which he was the delegate for the Coldwater and Hillsdale Rotary Clubs.

Dr. Frankhauser gave a most interesting account of his experiences on the trip and said that he had the good company of eight doctors and fifteen ministers. Dr. Frankhauser said that he saw no evidence of poverty in the part of Europe he visited except in France, and met only one beggar.

The doctor stressed the point that doctors of the United States desiring to carry on postgraduate work have no need to go abroad, but would better put their time and money in their own country, because it is difficult to get admission to the lectures over there, impossible to get a transcript of them and even if admission is secured the translations are far from satisfactory. So he urged the doctors of this country to do their postgraduate work in our own Medical Centers, where they can get just as good or better teaching, with the enormous advantage of having it in their own language.

Not only so, but he said that the consensus of opinion among the doctors attending the convention was that the standings of the Medical Centers of Berlin and Vienna are not up to their former standard; that this is admitted by the physicians there, who give lack of funds as the reason. Dr. Frankhauser, however, found much to commend in the extreme care, in general use, to secure antisepsis and asepsis, each surgical patient being passed through two preparatory rooms instead of only one.

He met Dr. Krummer, who is the leading man in the X-ray field at Geneva and who made him most welcome at his Clinic.

The health authorities at Vienna have great power, having authority to take children to the hospital if necessary without the consent of their parents.

Dr. Frankhauser was much impressed by the lecture of Prof. Steven Telliner, who is the leading European medico-legal expert, on the subject of resuscitation in cases of suspended animation from electrocution or drowning. Dr. Telliner severely criticized the methods of Schaffer and Sylvester (pressure of the chest) and said that the only correct mode is alternate elevation of the arms to the line of the body and then depressing them to the chest rythmically about once per second, but without pressure. He exhibited a manikin which carried out this procedure on the table. So much in earnest is Dr. Telliner that he said if only in the United States of America some wealthy man would endow a chair of Electrotherapeutics, and this mode of resuscitation be adopted in cases of suspended animation, it would result in a great saving of life.

Discussion was led by Dr. Poppen followed by Dr. Martindale of Hillsdale and a full general discussion followed.

Dr. Wade of Coldwater said he has never known of a case of suspended animation being restored by

the pulmotor or by artificial respiration nor could any of the doctors present say that they had saved a life by artificial respiration. The Red Cross Demonstrator was quoted as saying that twenty minutes in the water was the limit if life is to be restored.

Following the discussion the name of Dr. Frayzer Matteson of Hillsdale was proposed for membership and he was unanimously elected.

This is conceded to be one of the best meetings that the society has had for a long time. Nineteen were present and aside from Dr. Frankhauser's instructive experience the extended discussion was most valuable.

The meeting then adjourned.

D. W. Fenton, *Secretary.*

MECOSTA COUNTY

The regular meeting of the Mecosta County Medical Society was held at Crystal Lake, Bitely, Michigan, Tuesday evening, August 11, 1931.

Those present were: Drs. MacIntyre, Grieve, Dodge, Chess, Yeo, Campbell, Soper and Burkart. Dentists Shank, Miller. Speaker and guest, Dr. R. W. Waggoner of the University of Michigan.

Dinner was served at 7:15 P. M. in the dinning room of the Bitely Outdoor Club.

Dr. G. H. Yeo, chairman of the Program Committee, introduced Dr. R. W. Waggoner of the University of Michigan, who gave a very instructive talk on "Non-organic Diseases of the Nervous System, Diagnosis and Treatment." Discussion was led by Drs. Yeo, Campbell and Soper.

On motion of Dr. James Campbell, supported by Dr. Yeo, a rising vote of thanks was tendered our host, Dr. Chess, and our guest, Dr. Waggoner, for the excellent entertainment given.

On motion the meeting adjourned.

Jno. L. Burkart, *Secretary.*

NINTH COUNCILOR DISTRICT

Our local secretary, Dr. J. F. Carrow, sent out a call to the Societies of the Ninth Councilor District for a meeting here, for a 6:30 dinner at Hotel Northwood, Tuesday, August 25. There was so much in the air on poliomyelitis that I took it upon myself to confer with our local boys about enlarging the call and having a poliomyelitis discussion. This turned out to be a wonderful meeting.

Dr. Carrow called the meeting to order and was elected chairman and Dr. S. C. Moore, secretary. The following doctors were present: E. L. Thirlby, Richard Way, J. W. Gauntlett, E. F. Sladek, H. B. Kyselka, Traverse City; Harlan McMullen, Ellery Oakes, H. D. Robinson, Waldemir Hansen, E. C. Hansen, Charles Grant, Katherine Bryan, H. A. Ramsdell, Manistee; Earl and Stephen Fairbank, Luther; L. W. Snutzer, Ludington; F. E. Murphy, Cedar; W. G. Gamble, Bay City; J. L. Burkart and G. H. Yeo, Big Rapids; J. W. Decker, Lake City; L. J. Bronson, Kingsley; C. S. Purdy, Buckley; S. B. Smiseth, Suttons Bay; R. E. Hastings, Elk Rapids; R. E. Mills, Boon; G. W. Brooks, Tustin; H. E. Doudna, Lake City; T. Y. Kimball and W. A. Crawford, Manton; R. R. Haas and L. E. Showalter, Chicago; F. A. Tossey, Evanston, Illinois; J. M. Wardell, G. D. Miller, J. F. Gruber, J. F. Carrow, W. J. Smith, S. C. Moore, Cadillac; W. J. Murphy, Lansing (representing State Department).

Immediately after electing a chairman and secretary for the meeting, Dr. Carrow requested the doctors to stand in silent reverence to the memory of the late Dr. O. L. Ricker.

Dr. Moore was called on to explain the call for poliomyelitis discussion and, after brief remarks, introduced Dr. W. J. Murphy, representing the State Department, who gave the history and plans of organization of the recent poliomyelitis commission and explained methods contemplated to make a survey of convalescent cases in plans to obtain blood to be transported to the State Laboratory, prepared and made available for use in all parts of the State. The doctor responded to many questions and the meeting was turned into general discussion, report of individual cases and experiences of all the doctors. Here I am afraid to mention the doctors' names and what they said from my notes for fear of not quoting exactly and perhaps leaving some out altogether.

After this interesting round table discussion, a recess of ten minutes was taken to give opportunity for any conferences in lieu of selecting a doctor for recommendation to the State President to succeed the late Dr. O. L. Ricker. The meeting was called to order and delegates from the several societies adjourned to the adjoining room. Upon their return they reported Dr. Harlan McMullen of Manistee as the choice made. The entire discussion was friendly and the opinion seemed to prevail that Traverse City and Cadillac had been represented on the Council and Manistee was entitled to the honor.

S. C. Moore, M.D., *Secretary.*

UPPER PENINSULA SOCIETY

The meeting of the Upper Peninsula Medical Society, which was held in Houghton on August 13 and 14, was one of the most successful ever held by this society. There were registered 112 physicians, approximately 50 per cent of the roster of Upper Peninsula doctors.

The scientific portion of the program was most interesting and instructive, each participant being present, and the papers were received with great interest, as attested by the large number present at each session.

The 1932 meeting will be held at Sault Ste. Marie, Michigan, with the Chippewaw County Medical Society as hosts.

The social portion of the meeting was most beautifully carried out. August 13, the visiting ladies, numbering forty-two, were entertained by the local doctors' wives with a luncheon and bridge at the Onogoming Yacht Club. In the evening of the same day the banquet was attended by 212, and following this, a delightful dancing party was enjoyed at the Yacht Club. The next day the ladies were again entertained with a noon luncheon at the Lake Breeze Hotel at Eagle Harbor.

K. C. Becker, M.D.,
Chairman, Publicity Committee.

RUPTURE OF SPLEEN IN MALARIAL THERAPY IN SYPHILIS

S. H. Polayes and Max Lederer, Brooklyn, give abstracts of eight cases of rupture of the spleen in malarial therapy in syphilis reported in the literature and to these add a case that they observed. They state that spontaneous rupture of the spleen occurs much more frequently in cases of induced malaria for syphilis of the central nervous system, than in naturally acquired malaria. The usual changes predisposing to rupture, namely, enlargement and softening, are not present in spleens of patients suffering from syphilis of the central nervous system prior to induction of malaria. The increase in fibrous tissue in the capsule and septums with resultant loss of elasticity that occurs in syphilis does, however, predispose to spontaneous rupture. The symptomatology of the complication is briefly described and the importance of its early recognition is emphasized. A plea is made for more careful choice of patients who are to receive malarial therapy to avoid the possible fatal complication—rupture of the spleen.—*Journal A. M. A.*

THE DOCTOR'S LIBRARY

COLLECTED PAPERS OF THE NOON-DAY STUDY CLUB. Wayne County Medical Society, Detroit, 1930-1931. Edwards Brothers, Inc., Ann Arbor, Mich.

The Noon-Day Study Club is an organization of the younger Wayne County physicians and surgeons (we understand the upper age limit is 40 years), which had its beginning four years ago. The Study Club meets Tuesdays and Fridays as a luncheon club, when one of the number presents a paper on some subject pertaining to his work. The paper is read and afterwards a free-for-all discussion takes place. The enthusiasm of the early years of the organization has gathered momentum, as seen in their ambition in publishing the 1930-31 series of papers. Almost every department of medicine and surgery has been included. The volume contains 38 titles in all. The papers give evidence of thoughtful preparation. They are short and to the point. On any that were in the original in any way discursive, the editors have unhesitatingly used the blue pencil to make them conform to the assigned space. With such a variety of subjects we cannot go into detail. We wish, however, to commend the efforts of the Study Club in the production of this their first published volume, which we hope is the first of a series of worthy successors.

GOULD'S MEDICAL DICTIONARY; containing the words and phrases generally used in medicine and the allied sciences, with their definition, pronunciation and derivation. By George M. Gould, A.M., M.D., Edited by R. J. E. Scott, M.A., B.C.L., M.D. Third edition, revised and enlarged, based on recent medical literature. With illustrations and one hundred and seventy-three tables. Pages 1,538. Price indexed $7.50. Philadelphia. P. Blakiston's Son and Company, Inc.

"Dr. George M. Gould is the Johnson of medical lexicography. His various dictionaries, adapted to the needs of the student, practitioner and scholar, respectively, have had a commercial success that of itself is sufficient to prove their practical usefulness," wrote a reviewer in the British Medical Journal, commenting on a former edition of this well known work. The editor has carried on the Gould tradition so that the present revision has brought the work in keeping with present-day science. The features of the original medical dictionary by Gould have been as far as possible preserved. A notable characteristic is the derivations, in which those from the Greek are spelled in the Greek alphabet. The type is clear; the word to be defined is in relief in heavy type, while the definition and derivation are in a legible eight point type. The pronunciation is in italics. The thumb index makes for ready and convenient reference, while the fabrikoid binding makes for durability. The illustrations are clear in detail and serve their purpose well. The reviewer has no hesitation in recommending this volume as one of the most serviceable and scholarly in the English language.

EVOLUTIONARY TENDENCIES IN TEETH AND JAWS

In man the growth of a larger brain, and the cultivation of its complicated functions, call for much more time than is required for the development of other creatures, and during the years thus occupied the eruption of the teeth is delayed. In his lecture to the International Orthodontic Congress in London on Monday, Prof. Elliot Smith pointed out that most of the problems responsible for the creation of the orthodontic profession arise out of the circumstances created by these delays in the growth of the jaw while the brain is growing. If esthetic considerations and man's interest in faces play some part in creating the demand for orthodontics, the growth of the brain is chiefly responsible for disturbing the orderly process of uniform growth of the jaws from which the dental troubles arise. The chin, which is modern man's peculiar distinction, has probably developed because the growth of the tooth-bearing part is restrained by the long delay in the eruption of his teeth. There has been much speculation as to why this should be so, and it is strange, said Prof. Elliot Smith, that no mention has been made of the fact—clearly emphasized by Dr. H. A. Harris—that the human child until the seventh year, during the pause in his dental development, is growing a phenomenally large brain, and for another 15 years or so, while again he is relatively sluggish in his dental affairs, he is occupied in learning how to put his complicated cerebral instrument to the biological uses essential for human existence. The delay in tooth and jaw development is undoubtedly due to these momentous events, and the salient chin is an index of "mental" development in the psychological as well as the anatomical sense of that term.

This wider vision of the evolution of the face, continued the lecturer, enables us to view in truer perspective many false claims that are repeatedly being made about human tendencies. The reduction in size or absence of the third molar is often said to be a sign that man is destined to lose that tooth in the near future. But in Peking Man, who is supposed by some paleontologists to have lived as much as a million years ago, the third molar is smaller than the others, and the same condition is not uncommon in apes and monkeys. It is in fact a tendency which the whole order of Primates has inherited. Nor, in Prof. Elliot Smith's opinion, does there seem to be any justification for the belief that dental troubles, such as crowding and displacement of teeth and the consequential difficulties, are due to evolutionary changes that are now active. There is no evidence that, apart from the results of racial mixture, any detectable changes are taking place in the jaws and teeth. The same irregularities and deficiences were occurring 50 centuries ago and contrasts in the form and proportions of the jaws were just as marked. Evolution works with exceeding slowness, and there appears to be no certain evidence, he said, that any effects that can be attributed to recent evolution have yet been detected in modern man's jaws and teeth.—*From The London Lancet.*

PSYCHOCHEMISTRY: SOME PHYSICO-CHEMICAL FACTORS IN MENTAL DISORDERS

Walter Freeman, Washington, D. C., states that the application of another of the fundamental sciences to the study of behavior, namely biochemistry, is being witnessed today, and the designation pyschochemistry is the natural result. Advances in a science emanate from those who, already versed in two different disciplines, work in the field of knowledge lying between them. Mere collaboration of two different experts will not be so productive, since neither can be completely in sympathy with the point of view of the other. Few biochemists are versed in psychiatry, however, and few psychiatrists have more than a bowing acquaintance with such terms as colloidal dispersion, interfaces, ionic dissociation and oxidation-reduction. Psychochemists, therefore, will be grounded in biochemistry as well as in psychiatry and will investigate the problems of normal and abnormal behavior from the standpoint of altered chemical reactions in that master tissue of the body, the central nervous system. The failure of microscopy to demonstrate structural alterations in the so-called functional psychoses is driving the in-

vestigator into new channels of research. The results of this activity are just beginning to appear and will grow tremendously in volume. What future accomplishments may be witnessed are beyond human power to foretell. Dementia præcox, manic-depressive psychosis, paranoia, epilepsy represent four groups of disorders that rest on no constant well defined alteration in the histology of the nervous system. None can doubt, however, that there exists an underlying structural deviation, provided such a definition is pushed to its logical limits to include molecular and ionic imbalances. Probably the changes are much more gross than that and will be readily demonstrable when proper methods are applied. Such work as that already performed is sufficient to enable one to erect hypotheses concerning the probable underlying physicochemical mechanisms concerned in some of these major abnormalities. Most clearly indicated is the rôle of water balance in epilepsy, although this also involves such mechanisms as hydrion concentration, oxidation-reduction and salt equilibrium. Moreover, the rôle of defective oxidation in the nervous system in schizophrenia also rests on considerable evidence, and the striking parallels, from the chemical standpoint, between the phases of manic-depressive psychosis and the hibernation cycle of certain mammals, point to some phasic alteration in colloidal dispersion and electric potential. In view of its newness the author makes a survey of the field, and the possibilities of its further development. He emphasizes that there are certain biochemical processes associated with disorders of behavior, and that if one is equipped with a knowledge of their workings one may be able, by supplying deficiences, by preventing excesses, by controlling periodic shifts in various equilibriums, to bring about artificially conditions that approach the normal. The psychochemist has a large order.—*Journal A. M. A.*

CAUSES OF FAILURE IN INJECTION TREATMENT OF VARICOSE VEINS

H. O. McPheeters, Charles E. Merkert and R. A. Lundblad, Minneapolis, believe that recurrences of varicose veins following the injection treatment are due to too great dilution of the sclerosing fluid or insufficient concentration of the fluid; failure to thrombose the great saphenous vein in the thigh completely even to the saphenofemoral opening, and normal recanalization, which is Nature's natural effort if the thrombosis is not firm and hard. To prevent recurrences, the operator should: 1. Locate the great saphenous trunk by the percussion method and sclerose it up to the saphenofemoral opening. 2. Empty the veins before injecting, to aid concentration. 3. Localize the sclerosing fluid by the use of tourniquets or the Mac occluders, so as to prevent excessive dilution. 4. Choose sclerosing solutions according to the type and size of veins: for the small, thin walled veins he should use milder solutions, such as invert sugar; for large saccular veins, dextrose with sodium chloride combinations; and for the pick-ups, the quinine and urethane solutions. The authors have discarded the use of salicylates because of the severe pain and cramp. 5. Observe the patient till all the varicose veins are sclerosed satisfactorily. 6. Have the patient return in two months after discharge for check-up and at longer intervals after that. Precautions as to the injections are to: 1. Employ sterile technic. 2. Be sure that the injection is made within the lumen of the vein. 3. Stop the injection immediately when there is doubt as to whether or not the solution is going into the lumen. 4. If a perivascular injection has been made it is best to infiltrate the area of the injection with from 10 to 20 c.c. of physiologic solution of sodium chloride. 5. Apply sponge pressure to prevent leakage when the needle is withdrawn or in case the vein wall has been punctured. 6. Observe the patient every other day for from six to ten days following the initial treatment and then in two months, and see the patient at two to four month intervals after that. Yearly inspection is advisable. —*Journal A. M. A.*

INCIDENCE OF BRAIN TUMORS IN EPILEPSY

Nicholas Gotten, Philadelphia, presents three cases of brain tumor, disclosed in the routine encephalographic studies made on fifty-six epileptic patients in whom the only prominent symptoms were convulsions. One of the cases had been diagnosed as idiopathic epilepsy, one as symptomatic convulsions of hypertension, and the other as post-traumatic (operative) jacksonian epilepsy. The proportion of unsuspected focal lesions in this sort of condition is therefore 5.3 per cent. The beneficial results of early recognition and removal of the tumor are evident and the use of encephalography as a diagnostic procedure is of great value in establishing the characteristic and pathologic changes associated with convulsive seizures. In each of the cases presented, convulsions were the initial symptom; in two cases, clinical neurologic signs were not sufficient to establish the presence or localization of brain tumor, and as there were no signs of generalized intracranial pressure there appeared to be no reason for suspecting such lesions. The use of encephalography for diagnosis and localization of organic lesions of the brain is, therefore, of great value. When properly undertaken with due regard to technic and contraindications, it is a safe and justifiable procedure attended with little risk. The advantages of early recognition of brain tumors and their removal before signs of intracranial pressure develop has given a most satisfactory symptomatic and clinical relief. —*Journal A. M. A.*

"SANE" OBSTETRICS

H. J. Epstein and A. J. Fleischer, New York, believe that the expectant mother should have the benefits of "sane" obstetrics, rather than conservative or radical obstetrics. Such "sane" obstetrics can be maintained within the sphere of the incompetent though sincere physician and of the competent though overenthusiastic physician, by education of the former as to his limitations and of the latter as to the limitations of his modus operandi. The full cognizance by these two groups of the "obstetric risk" as an actual reality rather than a mere fantasy will temper their judgments, so that the incompetent will not plunge where angels fear to tread, and the overenthusiastic will not belabor the expectant mother with heavy artillery where diplomacy will serve better for her ultimate salvation. The obstetric risk in the authors' study shows that: (1) The morbidity risk in operative obstetrics was to that in nonoperative obstetrics in the ratio of 5:1. (2) The mortality risk in operative obstetrics was to that in nonoperative obstetrics in the ratio of 30:1. (3) The total infant mortality risk in operative obstetrics was to that in nonoperative obstetrics in the ratio of 3.6:1 (including spontaneous deliveries of macerated fetuses, premature infants and monstrosities). The mother of today is as fully equipped, mentally and physically, to undergo the hardships of labor as was the mother of yesteryear. A sound realization of this fact, together with a full cognizance of obstetric risk, will diminish the search for new fads to shorten labor and thereby result in a diminished maternal and infant morbidity and mortality.—*Journal A. M. A.*

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CONTENTS

Foundations in Michigan as Related to the Profession of Medicine. R. C. Stone, M.D. ... 809
Surgery of the Sympathetic Nervous System. Winchell McK. Craig, M.D. ... 814
The Practical Significance of Digestive Tract Anomalies. John L. Kantor, M.D. ... 820
Diagnosis of Mild Hypothyroidism. William R. Vis, M.D., F.A.C.P. ... 829
A Clinical Study of Myxedema in Michigan. H. H. Riecker, M.D. ... 831
Intestinal Disorders—Necessity for Specific Diagnosis and Rational Therapy. E. L. Eggleston, M.D. ... 835
Therapeutic Applications of Ultraviolet Radiation. Willis S. Peck, M.D. ... 839
Pyeloscopy. Harold L. Morris, M.D., F.A.C.S. ... 843
Radical Frontal Sinus Operations. H. O. Westervelt, M.D. ... 848
Famous Men in Medical History: Silas Weir Mitchell—His Contribution to Early American Neurology. Louis F. Knoepp, M.D. ... 851
Michigan's Department of Health ... 858
Editorial:
The 111th Annual Meeting ... 861
Dr. J. Milton Robb, President-Elect ... 862
Do Not Let Your Membership Lapse ... 862
The Governor's Address ... 863
A Grievance Committee ... 863
Medicine and Its Codependents ... 864
The Aschheim-Zondek Method for the Early Diagnosis of Pregnancy ... 864
The Iron Law of Wages ... 865
Infantile Paralysis ... 865
Editorial Notes ... 865
Deaths ... 867
General News and Announcements ... 868
Communications ... 869
Proceedings—111th Annual Meeting, Michigan State Medical Society ... 870
Society Activity ... 912
County Societies ... 916
Woman's Auxiliary ... 917
The Doctor's Library ... 918
Of General Medical and Surgical Interest ... 918

FOUNDATIONS IN MICHIGAN AS RELATED TO THE PROFESSION OF MEDICINE*

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In reviewing the history of philanthropy, we find that charity has always existed. Prior to the last century, it had not been organized in any way. Because of the great waste in indiscriminate giving and distribution, the overlapping and the growing tendency of many to maintain themselves through alms, thereby unfitting themselves for self support, many protests were sounded. The result of such protests was the formation of the first "Charity Organization Society" in England in 1869, the first one in America in 1877. These societies organized a relief system based on careful personal inquiry. Following this, several funds were established for benevolent purposes during the latter part of the 19th century. Mr. Carnegie's first American Foundation came in 1896. At the beginning of the next century, seven foundations of importance were operating.

The latter part of the 19th century and the first twenty years of our present one witnessed the accumulation of huge fortunes by many people in the United States. Much of this came to men and women who visualized tremendous opportunities for service, and, wishing to be of assistance to their fellow men, they created foundations for various purposes. These foundations, organized on sound business principles and employing 20th century business methods in the distribution of their funds, are making

*The annual address of the president of the Michigan State Medical Society, presented at Pontiac, September 23, 1931.

history, and are, no doubt, pointing the direction charity will take in the future. There are now about 150 such Foundations, with a total capital of about $1,000,000,000.00, distributing about $60,000,000.00 annually, and representing only about 3 per cent of the total funds given for benevolent purposes.

Much credit is due Mr. Andrew Carnegie for his pioneering in the creation of his Foundation; and no doubt the greatest development has been made by the Rockefellers.

Mr. Carnegie believed that he was merely the trustee of his surplus wealth, and, before his death, he had distributed nine-tenths of his fortune in various ways for the benefit of mankind.

The research work done in the discovery of insulin was financed by a grant from the Carnegie Corporation.

The Rockefellers, during this same period, gave approximately $600,000,000.00 to their Foundations and Boards. Much of this has been devoted to Medical education by the support and improvement of several large Medical schools; and it is still distributing several millions annually for this same purpose. In addition, this same source has spent huge sums annually in the interest of Public Health, Hygiene, Medical Research, etc. The general public, and the Medical profession as well, are greatly indebted for their many valuable contributions.

The Russell Sage Foundation, in its list of 150 Foundations, published in 1930, shows 52 which are devoted wholly or in part to causes in which the Medical profession is deeply concerned.

A rough estimate of the annual disbursements of American foundations related to medicine is as follows:

Object	No. of Foundations	Amt. Donated
Education	36	$30,500,000
Research	33	7,000,000
Health	22	4,000,000
Child Welfare	26	3,500,000
Genetic	3	400,000

The objects and present capital of some of the largest foundations are as follows:

Rockefeller Foundation (well-being of all mankind)	$147,000,000
Carnegie Corporation (diffusion of knowledge)	135,000,000
Gen. Education Board (medical and other education)	47,000,000
Duke Endowment (Duke Medical School)	40,000,000
Commonwealth Fund (Child Welfare)	38,000,000
Carnegie Institution of Washington (Research)	33,000,000
Children's Fund of Michigan (Child Welfare)	10,000,000
Maurice and Laura Talh Foundation (Child and Social Welfare)	10,000,000

Fourteen foundations are specializing in scientific research, and without doubt the most impressive activities of all foundation work are found in Biology and Medicine.

The Rockefeller Foundation alone spends $3,000,000 a year in a campaign against hookworm, yellow fever and malaria.

Over 60 per cent of the total funds distributed each year goes for education and research, health and child welfare work. Certainly this activity must meet the hearty commendation of all.

We must conclude from the findings of this brief summary that foundations in the last thirty years have established a precedent for the well directed distribution of funds for special charitable purposes; and no doubt we will see much more wealth put into action by future donors.

In Michigan, we have several funds, foundations and memorials in operation, all of which may be considered under the head of foundations. Many hospitals and nurses' training schools have been built and some endowed by private donors, while scholarships, and, in a few cases, funds for special research have been provided.

SPECIAL RESEARCH

Included in the group for special research, we find the Simpson Memorial Institute for Medical Research, which was presented to the Regents of the University of Michigan by Mrs. Christine McDonald Simpson, a memorial to her husband, Thomas Henry Simpson, who died of pernicious anemia in 1923. The endowment called for the building of an institute and the payment of a staff. The institute was to coöperate with the University Hospital. In January, 1926, Dr. James D. Bruce was appointed Acting Director of the Institute, and in January, 1927, Dr. Cyrus C. Sturgis was appointed Director, and Dr. Raphael Isaacs, Assistant Director. Work in the building was begun April 1, 1927. The purpose of the Institute was to study, primarily, the subject of pernicious anemia, to alleviate the suffering of persons afflicted with this disease and to discover its cure. The activities of the staff

of the Institute are coördinated along several lines. First, the treatment of patients with pernicious anemia. This is accomplished in the wards and the out-patient department of the Institute. Second, there is the experimental work, which consists in (1) accumulation of data on the subject of pernicious anemia; (2) development of the most efficient treatment for the anemia and for the neurological complications; (3) study of allied diseases (leukemia, secondary anemia) in the hope of throwing additional light on pernicious anemia, (4) teaching activities, both in Medical School and for various medical societies. Since the opening on April 1, 1927, there have been over forty publications dealing with general aspects of diseases of the blood.

The most outstanding accomplishment in the way of therapy has been the discovery of ventriculin by Dr. Cyrus C. Sturgis and his associates, in coöperation with Parke, Davis & Company.

Among other contributions of the Institute have been the study of the blood-forming organs, the bone marrow, the chemistry of the blood in relapses and remissions, the regulation of dosage, the symptomatology of pernicious anemia and the application of certain therapeutic agents to certain other types of anemia.

The Institute was awarded the Bronze Medal of the American Medical Association for its work presented at the 1930 meeting.

EDUCATION

An outstanding endowment with education as its object is The Merrill-Palmer School of Detroit. This was founded in 1920 in accordance with the will of Lizzie Merrill Palmer, widow of Senator Thomas A. Palmer, for the purpose of training young women in the care of children, with the special object of preparing them for motherhood and home-making. During the wide extension of the movement for child development and parent education, which has taken place in the last decade, The Merrill-Palmer School has become known as a center active in these and related fields relevant to its purpose.

The program of the school, which has gradually taken form during the eleven years covering the school's history, may be defined under the headings: Resident Courses of Instruction; Resident Nursery Schools; Resident Program in Parent Education; Research; Demonstration and Community Programs; Conferences and Publications. Many important and valuable contributions have come from the activities of the school through their research and publication departments.

HEALTH AND CHILD WELFARE

A foundation having health and child welfare as objectives is the Children's Fund of Michigan.

About three years ago, Senator James Couzens, of Detroit, Michigan, announced his generous gift of $10,000,000, which, according to his plan, is to be distributed with the income over a period of ten years to promote the health, welfare, happiness and development of children of the State of Michigan, primarily, and elsewhere in the world. The complete organization as developed from this bequest is called The Children's Fund of Michigan, and it is this organization through which its funds are administered.

A very extensive survey of health conditions in Michigan disclosed unsatisfactory public health service in some areas and a definite program was established in the hope that the donor's wishes would be fulfilled in giving the children and people of Michigan a type of Health service they could not otherwise afford.

This program is very extensive and covers very thoroughly the field of child welfare. The work has centered in four major divisions: Child Health, Child Guidance, Research, and Dependency. Under the very able direction of Dr. Bernard W. Carey, Director of the Child Health Division, the professional staff of physicians, health officers, dentists, nurses and health educators has been augmented until there are now 103 such workers in different sections of Michigan. Last year 150,000 children passed through their hands, and, of this number, 25,000 were returned to their private physicians because of ability to pay.

DENTAL PROGRAM

A large volume of work has been done in this department in mouth hygiene and correction of dental defects in thirty-five counties of Michigan. Indigent cases are taken care of by the staff. Those able to pay are referred to local dentists. In addition to

this, much work has been done in the Dental Clinic of the Children's Hospital of Detroit.

CONSOLIDATED HEALTH UNITS

The upper northeast sixteen counties of the Lower Peninsula were divided into four districts, and, in coöperation with the supervisors, four consolidated county health units were established, with complete staff as regulated by the State Commission of Health. These units have provided adequate health service in isolated areas, which otherwise these counties could not provide for themselves.

HEALTH EDUCATION

Probably the greatest accomplishment of the Child Health Division came this year with the dedication and opening of the Northern Michigan Children's Clinic at Marquette. It was my privilege to attend this ceremony last June. This clinic is operating in coöperation with the Post-Graduate Department of the University of Michigan and Michigan State Medical Society; and, with its splendid equipment and personnel, offers to the indigent children of Upper Michigan the very highest type of professional service; and offers, likewise, to the medical profession of Michigan, excellent opportunities for post-graduate study.

The program of the Child Health Division covers many activities, such as its county nursing program, Child Health Demonstration Clinic at Menominee, infant and pre-natal classes and a program for the correction of visual defects.

The *Child Guidance Division* has established a clinic in Detroit and grants have been made to Flint and Grand Rapids for similar centers.

The *Research Division* has made grants for the study of dental defects, childhood tuberculosis and problems of nutrition. From these, we may well expect valuable contributions.

The Children's Fund of Michigan, in coöperation with the Michigan State Medical Society and Post-graduate Department of the University of Michigan, has conducted post-graduate pediatric clinics throughout the state. These have been of real value to the profession. Grants have been given to the Joint Committee on Public Health Education and to other organizations for the improvement of the public health.

A recent foundation having Child Welfare as its objective is The W. K. Kellogg Foundation.

A little over a year ago, Mr. W. K. Kellogg of Battle Creek, Michigan, desiring to be of service to the children of the world, established this foundation with permanent headquarters at Battle Creek. "The purpose of this Foundation is: to directly or indirectly become actively engaged in Child Welfare; to consider ways and means of helping in matters of Child Health, Child Education, Child Recreation, Child Character Building, and to influence school children so that Health Education may, in turn, penetrate the school, the home and the community."

The chief interest of this foundation, up to the present time, has centered in the rural school problem. In Kalamazoo and Barry Counties, small country school districts have been consolidated, and central schools established, which include all classes and grades up to the University. These schools with their complete and modern equipment, with vocational training and health courses added to their curriculum, give to rural school children equal educational opportunities with those of city pupils.

The Foundation supplies health supervision of the consolidated school for an indefinite period of years, with the hope that, in the years to come, the community will see fit to continue most, if not all, of these activities.

The health program includes complete physical examination of each child and the study of nutrition, mental defects and behavior problems of every such child. An extensive health education program is established in each school district.

In addition to this rural school program, Mr. W. K. Kellogg, in coöperation with the Battle Creek Board of Education, has given to the City of Battle Creek the Ann J. Kellogg School, with its complete and thoroughly modern equipment. This school provides for the teaching and training of all underprivileged children.

A constructive health program will be established in two Junior High Schools of Battle Creek. The site of one, now in course of construction, was a gift of Mr. Kellogg. His most recent gift, through the

W. K. Kellogg Foundation, is an Auditorium High School, the auditorium of which will be used for civic purposes.

The benefits derived from these splendid educational facilities and constructive health programs will be far reaching.

Dr. Stuart Pritchard, Medical Director of the W. K. Kellogg Foundation, said in a recent article on the activities and purposes of the W. K. Kellogg Foundation:

"Since the health supervision part of the proposed demonstration concerns the members of the local Medical profession, and since much of the success of the project depends upon their hearty support, therefore, it would seem desirable to set forth a statement to serve as a basis for coöperation between the demonstration staff and the local physician. It may be stated at the outset that the Foundation has no thought of coming in as a competitor in the field of curative Medicine. Its chief concern is in the prevention of illness and the maintenance of a high health standard. The procedure to be followed will, it is believed, conserve and protect the interests of the private practitioner. By giving reliable medical information and high class medical service aimed at keeping all members of the family in health, it is anticipated that such activities will stimulate the growth of a new relationship between physician and patient whereby both will profit far more than in the past.

"The work of the W. K. Kellogg Foundation will not only be carried on in coöperation with the local Medical profession, but, as far as possible, the services of local physicians will be utilized.

"The services of the Staff will, for the most part, be concerned with the following:

"(a) Health examinations of school children carried out at the schools.

"(b) Health counseling and follow-up work by nurses, to bring about correction of health defects by the family physician.

"(c) Assisting public health officers and local physicians in carrying out the program of immunization against the contagious diseases.

"(d) Health examination and health counsel for the pre-school child carried out in health supervision centers.

"(e) Ill children presenting themselves at these health supervision centers would be referred to the family physician.

"(f) In referring an individual to a physician, in case he has no family physician, he would be given a list of physicians approved by the County Medical Society.

"(g) Demonstration staff nurses visiting homes would, in case they rendered any nursing service, follow the instruction of the physician in charge of the case, and would be careful in expressing medical opinions. The local physicians would be used as much as possible.

"(h) In the case of indigents, occasions may arise in which medical and nurses' care would be given by members of the Demonstration Staff, but only after investigation, advice and consultation with the County Medical Society.

"During the entire health supervision program, the school boards, the children, parents, and the community are constantly reminded of the importance of the family physician. He is made a part of all programs and is paid for the work he does. The Foundation makes it a rule that no territory is entered without the consent, approval and promised coöperation of the local medical society; and all matters of procedure are discussed with its executives. In this way the local physician is an active part in the program, his wishes are considered, and it is the desire of all concerned to elevate his standing in the district, and to enlighten the citizens more fully of the value of the doctor to State, community and to the individual."

In 1926 the Michigan State Medical Society, recognizing that its greatest obligation to the public of Michigan was to provide continuous post-graduate instruction to all members of the profession, established the Michigan State Medical Society Foundation. The purpose of this, as it appears in the articles of incorporation, is: to pay from the net income of the fund or funds held in trust, by order of the Executive Committee of the Council of the Michigan State Medical Society, for the purpose of providing post-graduate instruction without fee for those designated by said executive committee; to conduct clinics and courses of instruction without fee in hospitals and medical schools in the state of Michigan; to provide funds either by gift or loan to sustain such persons who are designated by said Executive Committee during their period of attendance on said post-graduate instruction or said clinics. This trust is to be perpetual; donations may be given special names by the donors appropriate to the purpose of the gift or in recognition of the giver. Gifts may be either in money or property, may be made by will or by deed, or by subscription agreement payable in installments as may be designed for particular objects.

Some bequests have already been made to this Foundation, and it is hoped others may follow in order that these activities may be continually broadened and increased.

It is very evident from a careful survey of these foundations already operating in Michigan that the object of the officers and boards controlling their activities is to follow the desires of the donors and to fulfill the purposes for which these funds were created. They recognize that, in order to function to their fullest capacity, they must have the coöperation of the medical profession. They recognize that the physician is the central figure in any enduring health program. They believe that, as the result of their activities, the position of medical men will be strengthened and that the economic stability of medical practice will be fortified. They recognize that the gifts of the medical profession in free service to humanity are of tremendous volume. The

Foundations refuse service to those able to pay professional fees, referring them back to their physicians. It is their policy not to interfere with private practice, but rather to guide through education, and to emphasize the value of professional training. Their contribution to medical education and scientific research has been of inestimable value to the medical profession as well as to the general public.

They have asked the coöperation of the profession of medicine in carrying out their programs in order that they may provide improved facilities for the care of the sick.

This affords us opportunities which we should not be slow to accept.

Let us, through our desire to be of service to the people of Michigan, coöperate with these organizations in the hope that these and future Foundations may be encouraged to provide funds for medical research and for medical education. With common objectives, and mutual confidence and understanding, we will both move forward into fields of greater usefulness.

In conclusion, I wish to express my deep appreciation of the honor and of the privilege of serving as your presiding officer during the past year. My sincere wish is that the Michigan State Medical Society will continue to progress, and that its present dignity will be maintained.

Acknowledgment for information contained in this paper is made to: First and Second Annual Reports of the Children's Fund of Michigan; Current History, February, 1931; Atlantic Monthly, October, 1929; also, to individuals who have so generously coöperated in supplying data.

SURGERY OF THE SYMPATHETIC NERVOUS SYSTEM*

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Surgery of the sympathetic nervous system has proved of benefit in relieving the symptoms of certain diseases which have resisted other forms of treatment. Following surgical removal of sympathetic ganglia and division of rami communicantes, definite improvement has resulted in cases of severe, progressive Raynaud's disease, thrombo-angiitis obliterans (Buerger's disease), certain types of scleroderma, chronic infectious arthritis, megacolon (Hirschsprung's disease), and atonic and painful conditions of the urinary bladder.

These operations have stimulated new interest in the physiologic activity of the sympathetic nervous system, and this interest has been manifested by many recent articles in the literature. Anatomically, the sympathetic or autonomic nervous system is composed of series of ganglia, nerves, and plexuses through which the viscera, glands, heart, blood vessels, and smooth muscles in other situations receive innervation. The most conspicuous feature of the system is a chain of sympathetic ganglia which extends vertically on each side through the neck, thorax, and abdomen; the spinal nerves are connected with the sympathetic trunk, on the same side, by one or more rami communicantes, through which they receive sympathetic fibers for the control of blood vessels, sweat glands, and smooth muscles situated within the territory of its distribution.

Operations on the sympathetic nervous system which were performed for relief of spastic paralysis produced increase in the temperature of the skin of the denervated extremity, associated with a slight flush, and suggested that a similar operative procedure might be instituted for relief of the cold hands and feet in Raynaud's disease, in thrombo-angiitis obliterans, and in certain cases of chronic infectious arthritis. Consequently, it was carried out by Adson, in a case of Raynaud's disease, with almost immediate relief of symptoms, as a result of dilatation of the blood vessels of the extremity, due to removal of the vasoconstrictor influence of the sympathetic nervous system. In normal persons, the tonus of the blood vessels of the extremities is maintained by a balance of the vasoconstrictor and vasodi-

*Read before the Upper Peninsula Medical Society, Houghton, Michigan, August 13 to 14, 1931.

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lator influences. Any disturbance of this well-balanced mechanism, which results in increase of the vasoconstrictor influence, produces decrease in the flow of blood to the extremities. This naturally results in lowering the temperature of the skin and in producing changes in color, accounting for the cold, clammy, blue hands and feet.

RAYNAUD'S DISEASE

Raynaud's disease is the classic representative of vasoconstrictor disturbances of the extremities. The disease is distinguished from the milder vasoconstrictor disorders of the extremities which simulate it, but which apparently do not progress, and are not sufficiently troublesome to warrant surgical intervention. The milder forms include the less severe cases in which there are blue, cold hands and feet not accompanied by pain or ulceration. Some apparently normal persons have such disturbances, which occur chiefly in the winter months, and which are relieved by exposure to heat, change of residence, or change of climate. These patients complain chiefly of attacks of pallor, involving one or more fingers or toes, associated with numbness or aching, but they do not complain of severe pain or of ulcers. There is no contra-indication to operating on patients of this group, but at the present time surgical measures should be applied to the sympathetic nervous system only when the symptoms are progressive, incapacitate the patient, produce ulceration, or fail to respond to the simpler medical procedure.

Raynaud's disease occurs in adult life, predominantly in women, and is characterized by the presence of symmetric changes in color of the hands and feet, or of the fingers and toes. It may involve the upper or lower extremities, and occasionally the nose, and lobes of the ears. The blanching of the skin is brought about by vasoconstriction of the vessels, due to exposure to cold or emotional influence. This blanching is followed by cyanosis, which continues until the vasoconstriction subsides. In the earlier stages of the disease, this subsidence is accompanied by discomfort, then by aching, and finally by severe pain. As the disease progresses, the changes in color become more prominent and the skin remains more or less cyanosed unless the condition is relieved by application of heat externally. Should the vasoconstriction become prolonged and the circulation markedly decreased, gangrene may occur. Gangrene in Raynaud's disease differs from the gangrene which occurs when the vessels are occluded, in that it produces dry ulcers at the tips of the fingers or toes, with distorted growth of the nails, instead of complete gangrene of one of the digits. If the process is allowed to continue, the gangrene will ascend and will become extremely painful. Usually, the patient complains of subjective numbness, which interferes with the function of the extremity and adds to the general discomfort and incapacitation. The disease does not always progress to the severe forms; hence the milder types may be controlled by changing occupation or climate. When the symptoms persist, and ulceration and gangrene develop, operation should be performed. In almost all cases in which operation has been performed the patient is relieved immediately of pain, the cyanosis disappears, and the skin becomes warm, pink, and dry; the ulcers heal, the nails take on normal growth, and the patient is restored to normal health.

CALORIMETRIC AND THERMOMETRIC STUDIES

In contrast to Raynaud's disease, the result of an abnormal degree of vasoconstriction of the vessels of the extremities, there are diseases similar in clinical characteristics which are due to occlusion of the vessels. There are two main forms of occlusive vascular disease which produce cold, bluish hands and feet; these are thrombo-angiitis obliterans, and arteriosclerosis with thrombosis. Operations on the sympathetic system were originally carried out for such conditions because of associated constriction of the unoccluded arteries of the extremities or of the collateral vessels. In most cases of thrombo-angiitis obliterans there are two underlying causes of the diminished supply of arterial blood to the hands and feet; the chief cause is occlusion of the main arteries by development of an organizing blood clot, and in addition to this organic slowing up of the blood stream there is an abnormal increase of vasoconstriction in the collateral vessels. Evidence of this vasoconstriction in the collateral circulation was noticed during treatment of this disease by intravenous administration of typhoid vaccine. An increase in the cutaneous temperature, out of proportion to the general rise of tempera-

ture, was recorded. This suggested that the condition of patients with thrombo-angiitis obliterans could be permanently improved by eliminating the excess vasoconstriction by severing the sympathetic supply. It was found that there was more vasoconstriction of the collateral vessels in some cases than in others, and that there was more post-operative relief in cases in which this cause was most distinctly associated. The fever and vasodilatation induced by intravenous administration of typhoid vaccine became a therapeutic test for the selection of suitable cases and became known as the "fever test."

This test was devised by Brown and was termed the "vasomotor or vascular index." It is performed as follows: Fever is induced by the intravenous injection of triple typhoid vaccine, and the surface temperatures of the digits, feet, and hands, are taken simultaneously with the temperature of the mouth, or in other words, simultaneously with the temperature of the blood. All persons, including those who are normal and those with or without vascular disease, after a preliminary drop due to the chill, demonstrate rise in the temperature of the mouth and of the surface. The magnitude of the rise in temperature of the skin is dependent on the initial temperature of the extremity, the severity of the febrile reaction, and the patency of the arteries. In cases in which the extremities are cold, and in cases in which there is considerable vasospasm, the increase in surface temperature is great. The index is calculated by determining the rise in the surface temperature and subtracting from that the rise in the temperature of the mouth or blood; this, in degree centigrade, constitutes the change in temperature of the skin that is due largely to the redistribution of blood that comes from vasomotor changes. This increase, divided by the number of degrees increase in the temperature of the blood, gives a figure which, in simple terms, indicates that for every degree of rise in the temperature of the blood, there is in the temperature of the skin a certain number of degrees' rise which is largely of vasomotor origin. In cases of Raynaud's disease, vascular indexes of from 5 to 14 are obtained. In cases of thrombo-angiitis obliterans with associated vasospastic disturbances, vascular indexes of 2 to 6 have been found. This index is of practical importance in the selection of cases for operation, for the rise in surface temperature that comes with fever approximates roughly that which will occur after sympathetic ganglionectomy and trunk resection. It also has importance in distinguishing between cases in which the diagnosis of pure vasomotor disturbance and early organic disease of the arteries is not entirely clear. In arteriosclerotic disease of the limbs, the vasomotor index is low, or zero. Such an index militates against the decision to operate on the sympathetic system. The studies of temperature are carried out by means of a galvonometric thermocouple which can be attached to the individual digits and areas of the skin.

In view of the fact that administration of triple typhoid vaccine causes systemic reaction, other methods for testing the presence of vasoconstriction have been introduced. Spinal anesthesia interrupts the vasomotor pathways to the lower extremities, and by measuring the rise in surface temperature after this procedure has been carried out, the amount of benefit to be derived from operation on the sympathetic system can be predicted. Paravertebral injection, with procaine, of the stellate and second thoracic sympathetic ganglia, provides a similar test for the upper extremities.

THROMBO-ANGIITIS OBLITERANS

Thrombo-angiitis obliterans occurs in adult life, has a predilection for men, and affects persons of all races, in spite of the fact that it formerly was supposed to occur more commonly in Hebrews than in others. The underlying causes have not all been determined. The disease seems to progress after infection of the inner walls of the arteries, and formation of a clot which occludes the vessels, thus decreasing the blood supply to the extremity. The infection and the formation of clot vary in degree and distribution. The condition may affect the distal part of one principal artery, or it may include all of the principal arteries of all extremities at different periods. The usual course of this disease is rather slow; the main vessels of the feet and legs are involved early, and those of the upper extremities later. When it is economically possible, relief can be obtained by discontinuing work, remaining at rest in bed, applying heat to the extremities, and being treated with vaccines administered intrave-

nously. In time, organization of the intravascular clot takes place and circulation will be partly restored. However, many patients are compelled to work, subjecting their hands and feet to trauma, and ulcers may develop sooner or later, and refuse to heal. These ulcers become infected, the infection spreads to adjacent tissues, and more thrombosis and gangrene appear, necessitating amputation of the extremity. By means of operation on the sympathetic system, it is possible to relieve the vasomotor spasm of the collateral vessels, which improves circulation, tends to prevent ulceration, infection, and gangrene, and hastens healing of existing ulcers and abrasions. In suitable cases, selected by means of the "fever test," the pain usually is relieved, the circulation is improved, and the skin changes from mottled reddish-blue to pink. Also, the temperature of the skin is increased from 2 to 10°, depending on the amount of vasoconstriction present before operation, the ulcers begin to heal, and the patient is restored to his former status as a wage-earner. Moreover, the operation may prevent further gangrene and extension of the process to the opposite extremity, which usually is involved to a slighter degree than the extremity which causes the symptoms. The operation is not advised in the milder cases, in which the patients are not inconvenienced greatly, are free from ulcers, and are able to carry on regular work under symptomatic treatment. In a recent review of cases seen in the last two to five years, in which operation on the sympathetic system had not been performed, it was found that in 25 to 30 per cent, amputation of one or more extremities had been necessary. Less than 5 per cent of the seventy patients who have been operated on have been obliged to undergo amputation. This comparison emphasizes the value of operations on the sympathetic system in protecting patients with thromboangiitis obliterans from losing one or more extremity by amputation.

The other type of occlusive vascular disease, which has for its underlying cause arteriosclerotic changes in the vessels, is not accompanied by vasoconstrictor spasm of associated vessels, and therefore does not respond to operation.

SCLERODERMA

Another type of disorder which is sometimes alleviated by the operation is scleroderma, a disease of the skin characterized principally by brownish discoloration, associated with thickening or atrophy, usually involving the fingers and toes. The distribution may be circumscribed, spotty, or diffuse, and limited to the feet and legs, or it may involve the hands, arms, face, and neck, and the skin over the upper part of the thorax. The muscles and bones may be included in the atrophic and degenerative process. The disease is usually slowly progressive, and it occurs at any age or in persons of either sex, but more frequently in young women. All cases of scleroderma do not result from disturbance in the sympathetic nervous system, but the lesions which develop in the feet, legs, hands, arms, and face frequently are preceded by a phase of increased vasoconstriction characterized by cold, sweaty, bluish hands and feet, similar to those of Raynaud's disease. This type of scleroderma has been observed, also, in patients suffering from thrombo-angiitis obliterans and chronic infectious arthritis. The early cases of scleroderma, associated with vasomotor changes, respond satisfactorily to operation on the sympathetic system, but in advanced cases there is no marked improvement, due to the pathologic changes that have taken place in vessels, skin, and subcutaneous tissues. The results in the early cases are those of immediate improvement in circulation, and loosening and thinning of the skin over the extremities, face and neck. The skin and muscles of the face lose their drawn expression, the mouth can be opened more widely, and the tongue can be protruded. The operation will not help in advanced cases, in which thickening of the skin and hardness of the muscles have become extreme, and therefore, if operation on the sympathetic system is to be employed in the treatment of scleroderma of vascular origin, it should be employed as soon as the disease is recognized, to prevent its progress. If the condition is permitted to continue, it usually results in pain, deformity, and total invalidism.

ANGINA PECTORIS

Several different types of operation on the sympathetic nervous system have been devised to relieve angina pectoris. Authorities differ as to whether destructive changes in the aorta and coronary arteries, coronary sclerosis, myocardial changes, or coronary spasm can be accredited with contributing

to the syndrome. Because the pain associated with vascular disease of the extremities can be relieved by operation on the sympathetic nervous system, and because the upper sympathetic ganglia are involved in innervation of the heart and aorta, removal of these ganglia seems a logical procedure in treatment of angina pectoris.

The results have varied in the hands of different surgeons, and no one operative procedure has been universally successful. One, or all, of the cervical sympathetic ganglia on one or both sides have been removed with moderate success. Likewise, the middle cervical and stellate ganglia, as well as the cervicothoracic and upper part of the thoracic trunk have been removed. Because the upper five thoracic ganglia receive afferent sympathetic fibers from the heart, transmitting pain, paravertebral injection of alcohol on one or both sides, has been advocated for elderly patients who would be unable to withstand surgical procedures.

ARTHRITIS

Among the various types of patients suffering from chronic infectious arthritis is a group of adults who have painful, swollen, tender joints, associated with limited motion, atrophy of muscles, and loss of function. The patients also complain of cold extremities, mild changes in color of the fingers and toes, and excessive perspiration. There is a tendency for the condition to progress slowly; it is not altered by removal of foci, immobilization, massage, or exercise, and is symptomatically relieved only by application of various types of heat. In certain selected cases of this group, operation on the sympathetic nerves causes relief of symptoms by the improvement in circulation which follows the vasodilatation. The skin becomes warm and dry, the pain is gradually relieved, the tenderness tends to disappear, and the swelling subsides. In selecting suitable cases for the operation, the rise in surface temperature of the extremity following intravenous administration of typhoid vaccine is used as an index.

CONGENITAL IDIOPATHIC DILATATION OF THE COLON

In view of the fact that the sympathetic nervous system not only contains vasomotor fibers, but fibers which innervate other smooth muscles of the body, operations on the sympathetic nervous system have been used to relieve Hirschsprung's disease, or congenital idiopathic dilatation of the colon. By interrupting the sympathetic nerve supply to the rectum, the hyperactivity of the smooth muscles in the rectal sphincter is decreased, thereby allowing more normal movements of the bowel.

CORD BLADDER

Urinary retention resulting from congenital, neoplastic, traumatic, or inflammatory lesions of the spinal cord, interfering with innervation of the bladder, has been partially or totally relieved by an operation described by Learmonth, consisting in section of the presacral sympathetic fibers. These fibers are derived from the second, third, and fourth sacral nerves, and represent the reciprocal innervation of the detrusor muscle and the internal vesical sphincter. Also, trophic lesions of the bladder have been improved, and painful sensation reduced, by section of the presacral nerve.

SURGICAL PROCEDURE

Surgery of the sympathetic nervous system includes several procedures by which the attempt is made to interrupt the sympathetic nerve supply to the vessels and viscera. In the vascular diseases, the outer coat of the artery has been removed in an effort to destroy the sympathetic nerves which form plexuses about the vessels. This procedure is called peri-arterial sympathectomy and has not proved so successful as division of rami communicantes or removal of the ganglia and trunks. The most satisfactory surgical technic for conditions involving the lower extremities consists in removal of the second, third, and fourth lumbar sympathetic ganglia and the intervening trunk, after the trunk has been divided above and below, and after all of the associated rami have been divided.

Lumbar operation.—An abdominal incision is made from the symphysis pubis to a point 5 to 7 cm. above the umbilicus, between the rectus abdominis muscles and to one side of the umbilicus. The Trendelenburg position is used, and the intestines are packed upward, as in pelvic operations. To expose the left lumbar sympathetic chain, it is necessary to mobilize the sigmoid and the lower portion of the descending colon, by incising the peritoneum above and just

lateral to the anterolateral border of the upper portion of the sigmoid and the attachment of the lower portion of the descending colon. After the large bowel has been elevated and retracted, with the posterior wall of the peritoneum, there is exposed the retroperitoneum, the ureter, the left common iliac artery and vein, the lower end of the abdominal aorta, the genitocrural nerve, the psoas muscle, the lumbar vertebræ, the lymph nodes, and the lumbar sympathetic ganglia, trunk, and rami which lie on the lumbar vertebræ, just mesial to the psoas muscle. By retracting the abdominal aorta mesially, the sympathetic ganglia, trunks, and rami can be dissected free, beginning with the fourth lumbar ganglion at the brim of the pelvis and dividing the sympathetic trunk below it. The dissection is then carried upward to include the third and second lumbar sympathetic ganglia, dividing all communicating rami.

The approach to the lumbar sympathetic ganglia on the right is similar to that on the left, except that the peritoneal incision is made just lateral to the right lateral border of the abdominal vena cava, and is carried downward over the right common iliac vein into the true pelvis, upward and mesially along the root of the mesentery of the small intestines, partially across the vena cava for a distance of 15 cm. from the brim of the pelvis, and downward into the pelvis for a distance of 5 to 7 cm. The cecum, and the small intestines, are retracted outward and upward. The vena cava is retracted mesially, and the common iliac vein, downward and mesially. Further exposure and removal of the lumbar sympathetic ganglia, and division of all of the rami and of the sympathetic trunk are similar to the procedures employed on the left side. Closure consists in accurate apposition of both posteroperitoneal incisions to prevent retroperitoneal hernia and accurate closure of the abdominal wall to prevent the more common type of postoperative hernia.

Thoracic operation.—The patient is anesthetized and placed prone on an operating table that is equipped with a cerebellar head rest. A postero-median incision is made in the skin from the tip of the fifth cervical spine to the tip of the fourth thoracic spine. The incision is carried down to the spinous processes, thus exposing the fascia over the trapezius muscle on both sides. The fascia and muscle are incised on each side, parallel with the spinous processes, and extending from the sixth cervical vertebra to the third thoracic vertebra. The procedure at this point is carried to completion on the side to be operated on, before dissection of muscle on the opposite side. The incision of fascia and muscle is made through the tendinous attachment of the trapezius, rhomboid, and serratus posterior muscles. The erector spinæ group of muscles and the lower end of the splenius cervicis muscle is exposed. The transverse processes of the thoracic vertebræ can be palpated through these muscles. After one has made sure that the spinous process of the first thoracic vertebra has been identified, as well as the tip of the transverse process of the first thoracic vertebra, blunt dissection is made through the erector spinæ group of muscles, parallel with the spinous processes. Muscular attachments to the transverse process are now freed mesially, until one can demonstrate the process where it fuses with the body and the lamina. The periosteum of the rib is incised on its dorsal aspect. This permits exposure of the rib lateral to the transverse process for a distance of 3 cm. The rib is cut at the outer border of this area of exposure, and the transverse process is cut where it joins the body of the vertebra. The pleura and lung are now gently dissected from the lateral side of the vertebra and are retracted anteriorly and laterally. After exposure of the sympathetic trunk in the posterior mediastinum, the procedure consists in dissection and removal of the ganglia and of the intervening trunk, and division of any gray rami that may run laterally from the thoracic ganglia to the first thoracic nerve. After the sympathetic trunk has been divided below, traction is made from above downward, thus exposing the cervicothoracic ganglion sufficiently to divide all of the rami ascending from the ganglia into the cervical region.

Operation on sympathetic nerves of the urinary bladder.—For operations to relieve conditions in the rectum and bladder, a smaller abdominal incision is used, and the pelvic portion of the sympathetic chain, or the presacral nerve, is removed.

SUMMARY

Surgery of the sympathetic nervous system has proved of extreme value in reliev-

ing the symptoms in diseases which are associated with hyperactivity of the vasoconstrictor influence on the vessels, producing cold, clammy extremities. The majority of patients with Raynaud's disease are immediately relieved of their symptoms following this operative procedure. Certain selected cases of thrombo-angiitis obliterans and chronic infectious arthritis are relieved in direct ratio to the amount of associated vasoconstriction present in the vessels of the extremities. Certain diseases of the colon and bladder are relieved also by interruption of the sympathetic nerve supply.

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THE PRACTICAL SIGNIFICANCE OF DIGESTIVE TRACT ANOMALIES*

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In this communication an attempt is made to present in brief review the practical significance of digestive tract anomalies. The term "anomalies" is used in a broad sense to include not only those conditions which are generally regarded as being beyond the range of normal, but also those within so-called normal limits, more commonly called "variants."

Some of the anomalies here reviewed—namely those susceptible of X-ray demonstration—have already been studied and preliminary results published at various times. These results were based on a combined clinical and roentgen survey of an unselected series (now numbering 3,000) of private patients complaining of digestive disorders, about three-fifths of whom were X-rayed. By way of preliminary survey this entire series was analyzed for the *general* incidence of the more common symptoms of "indigestion." These basic figures are now presented in Table 1, and will be used throughout the present study as a standard of comparison for those anomalies which have been personally encountered.

In the case of those anomalies which are not represented in the present material, references to some of the important *recent* literature are cited.

TABLE 1

INCIDENCE OF THE MORE COMMON COMPLAINTS OF DYSPEPTICS

Based on 3,000 Histories

	Cases	Per cent
1. Abdominal Pain	1,431	47.7
2. Constipation	1,386	46.5
3. Flatulence	1,137	37.8
4. Belching	1,008	33.6
5. Headache	691	23.3
6. Vomiting	598	19.9
7. Epigastric Distress	414	13.8
8. Abdominal Distention	381	12.7
9. Heartburn	337	11.2
10. Right Lower Quadrant Pain (In 1,691 X-rayed cases)	162	9.5
11. Nausea	274	9.1
12. Diarrhea	258	8.6
13. Food Restriction	233	7.8
14. Anorexia	181	6.0
15. Regurgitation	118	3.9
16. Globus Hystericus	96	3.2
17. Vertigo	94	3.1
18. Jaundice	92	3.1
19. Bleeding (Hematemesis 38, melena 30)	68	2.3
20. Bleeding (Bright blood in stools)	68	2.3

BODY HABITUS

From the point of view of our discussion, extremes of habitus may be regarded as anomalies or variants of body structure. In our 3,000 cases, 21 per cent were classed as asthenics, 27 per cent as sthenics, and the remaining 52 per cent as intermediates. The differentiation as to habitus was made on gross inspection rather than by means of special measurements or indices. All patients whose habitus was in any doubt were classed as intermediates. Although this procedure may lack accuracy for certain

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purposes, it was felt that the elimination of all borderline cases would increase the reliability of our conclusions as to the general significance of body habitus.

TABLE 2

RELATION OF BODY HABITUS TO CERTAIN CLINICAL CONDITIONS

Total Cases	Condition or Disease	Cases: Asthenics	Cases: Sthenics	Ratio: Asthenics	Ratio: Sthenics
85	Duodenal Bands	45	7	6.4	1.0
300	Gastroptosis	152	34	4.4	1.0
284	Low Cecum	138	37	3.7	1.0
614	Neurosis	173	127	1.3	1.0
526	Appendicitis (Operation)	122	122	1.0	1.0
258	Redundant Colon	63	72	1.0	1.1
235	Duodenal Ulcer	52	88	1.0	1.6
83	Appendicitis (Pus)	15	29	1.0	1.9
188	Cholecystitis	15	89	1.0	5.9
57	Cancer of Stomach	3	32	1.0	10.6
102	High Cecum	5	73	1.0	14.6

A study of Tables 2 and 3 on the reciprocal relation of body habitus and certain common clinical conditions indicates that the asthenic habitus is predominantly associated with most anomalies and functional disorders, whereas the sthenic habitus favors most of the organic diseases of the digestive tract. One special point in this connection would bear emphasis. It is now 16 years since Bryant made the positive statement that appendicitis was much more likely to run a stormy course in stocky than in slim individuals. For some reason this statement has never been either confirmed or disputed. Table 4, which presents the facts in greater detail than the preceding tables, shows that Bryant's observations were correct in the proportion of 2 to 1.

TABLE 3

RELATION OF CERTAIN CLINICAL CONDITIONS TO BODY HABITUS

Condition or Disease	Cases: In 500 Asthenics	Cases: In 500 Sthenics	Ratio: In Asthenics	Ratio: In Sthenics
Duodenal Bands	34	5	6.8	1.0
Low Cecum	113	18	6.3	1.0
Gastroptosis	212	50	4.2	1.0
Neurosis	136	84	1.6	1.0
Appendicitis (Operation)	83	68	1.2	1.0
Redundant Colon	47	44	1.0	1.0
Duodenal Ulcer	31	40	1.0	1.3
Appendicitis (Pus)	11	20	1.0	1.8
Cholecystitis	13	52	1.0	4.0
Cancer of Stomach	3	20	1.0	6.6
High Cecum	3	45	1.0	15.0

TABLE 4

RELATION OF APPENDECTOMY TO BODY HABITUS

Incidence of Appendectomy	Cases	Per cent
In 3,000 unselected cases (general incidence)	517	17.2
Clean cases	408	83.6
Pus cases	80	16.3
In 836 cases of sthenic habitus	125	14.9
Clean cases	90	75.0
Pus cases	30	25.0
In 644 cases of asthenic habitus	123	19.1
Clean cases	106	88.3
Pus cases	14	11.7

ESOPHAGUS

Atresia.—This is a rare anomaly. The total number of cases reported to date in the literature probably does not exceed 200 (Plass, Hirsch, Vinson). In its complete form the condition is incompatible with life, since the esophagus, usually defective in its middle portion, communicates at the top of its lower segment with the trachea or a bronchus, forming an esophago-tracheal or esophago-bronchial fistula. Associated anomalies are encountered elsewhere in the body in about one-half the cases, the most common being atresia ani.

In the incomplete form of esophageal atresia the point of stenosis is represented by a transverse diaphragm or simple narrowing. The prognosis in these cases is not uniformly bad, as they may be relieved by dilatation and appropriate attention to diet.

Only one case of probable congenital atresia of the esophagus was encountered in our series. The patient is a girl, now 27 years old, who has been under observation for the past four years. She had suffered from dysphagia of varying degree from birth, and was never able to eat meat or raw food. On three occasions she had attacks of severe spasm with complete inability to swallow, even her saliva returning by mouth. Her treatment consisted of occasional dilatations, the largest size of bougie or tube that succeeded in passing into the stomach being No. 30 French. She has maintained a normal degree of nutrition although she still has to restrict her diet to soft and fluid foodstuffs.

The *congenitally short esophagus* will be discussed under esophageal hernia of the stomach.

Diverticula.—These diverticula as well as those elsewhere in the body are congenital

only in the sense that the weak spot in the musculature through which they protrude is presumably present from birth. The pouch itself develops later in life from actual use of the viscus involved. This tendency to pouch formation may be widespread so that not only the esophagus, but the duodenum, the colon, and even the urinary bladder may be simultaneously affected.

The typical "congenital" esophageal diverticulum is of the pulsion, as contrasted with the traction, variety. The former is always located on the posterior wall of the esophagus at the pharyngo-esophageal junction. The wall consists of mucosa and submucosa, rarely of muscularis, and the growth of the pouch is backward and downward, *i.e.*, between the esophagus and the spinal column. The condition may be asymptomatic or may give rise to mild but more extreme cases, malnutrition. Passage of a tube into the stomach is practically impossible in large pouches as the tip engages in the diverticular aperture. Surgical excision gives good results in advanced cases. The mild ones may be improved by general measures such as fattening and control of the nervous symptoms.

In our series of 1890 X-rayed patients, only two instances of esophageal pulsion diverticula were encountered. It is possible that some mild cases may have been overlooked. In the same series, four cases of traction diverticula were observed. Both our pulsion cases occurred in women although the male sex is said to be far more commonly affected. The older of our two patients possessed the larger pouch and as a result was much undernourished. Her nutrition was markedly improved by appropriate modification of diet and attention to detail. The other patient has likewise done well on medical management.

DIAPHRAGM

Eventration.—This condition is due to congenital diminution or complete absence of muscular tissue in the diaphragm. Usually the left side alone is affected, though occasionally the right side or both may be involved. In our series of 1890 X-rayed cases, 18 instances (1 per cent) of eventration were encountered, twelve of these being on the left side. Only a few were sufficiently marked to cause symptoms. The most common complaints are chest distress, palpitation, difficult belching and flatulence. The symptoms are due to imprisonment of air, either in the stomach ("gastric pneumatosis," "chronic stomach bubble") or in the splenic flexure of the colon. "Heart trouble" is often the complaint that brings these patients to the physician.

In addition to reassuring these patients, they should be instructed how to avoid or minimize gas accumulation under the left diaphragm.

STOMACH

Esophageal Hernia.—Herniation of the cardiac end of the stomach may occur through the esophageal foramen of the diaphragm. This condition is thought by some to result from an early inhibition in the growth of the esophagus (congenitally short esophagus). Esophageal herniæ usually remain undiscovered unless the patient is examined roentgenologically in one of the recumbent or inverted positions. Under these circumstances an inch or two of the stomach may protrude into the chest cavity, although in rare instances much of the retrocardiac space may be filled by the gastric fornix. In one of our cases a knuckle of colon protruded through the esophageal foramen. The literature is reviewed in the excellent paper by Ritvo.

In the present series esophageal hernia occurred in about one per cent of cases, mostly in sthenic women. Usually this condition caused no symptoms, but when these did occur the chief complaints were sour regurgitation, and bad taste when the patient lay supine or in the left lateral position.

Thoracic Stomach.—This is a very rare anomaly (LeWald) in which an extremely short esophagus leads to a stomach located entirely above the diaphragm. The duodenum passes into the abdomen through the esophageal foramen. The condition is asymptomatic. No complete case was encountered in our series but there are two instances of partial thoracic stomach in which the upper third of the organ was constantly present in the chest cavity, despite change from the prone to the erect posture.

Diverticulum.—Diverticula are rare in the stomach in comparison with their incidence in the rest of the digestive canal (Akerlund, Kalbfleisch). Only two fairly definite and five doubtful cases were encountered in our

series. The true or congenital pouches always occur at the weakest part of the gastric musculature, namely, in the cardiac region. They are to be distinguished from false or acquired diverticula which are secondary to intrinsic or extrinsic lesions and may occur anywhere in the viscus.

No symptoms are produced by gastric diverticula but complaints may be erroneously attributed to them. Their chief clinical importance is that they may be mistaken for ulcer niches.

Congenital Pyloric Stenosis.—Although universally regarded as congenital in origin, the manifestations of the disease do not occur until the second to the fourth week of life. Almost six-sevenths of the cases are in males and almost one-half are in first-born children. According to John Thomson, children who survive the disease in infancy are in no way handicapped thereby in after life. No cases were encountered in the present series which consists almost exclusively of adults.

DUODENUM

Anomalies of Course and Fixation: General Considerations.—Normally the duodenum is entirely retroperitoneal and is fixed to the posterior abdominal wall as a result of absorption of its primitive mesentery. This arrangement seems to favor the rapid transport of contents characteristic of this part of the intestine.

The following anomalies may under certain circumstances interfere with duodenal motility and cause general or local symptoms:

1. Congenital bands, representing the unabsorbed free edge of the lesser omentum (lig. hepatoduodenale, lig. hepatoduodenocolicum), which fix the duodenum in its first or second portion.

2. Structures which cross the second and third portions of the duodenum and which may at times exert sufficient pressure to cause at least transient stasis. These structures are the transverse mesocolon, the middle and right colic artery, the superior mesenteric artery, and the root of the mesentery (Kellogg). The special conditions under which such pressure may be produced are right coloptosis and low cecum, unusually short mesentery of the small intestine, atypical origin or course of the superior mesenteric artery and its branches. All these factors operate in the erect rather than in the prone position.

3. Non-fixation of the duodenum due to persistence of the primitive mesentery, resulting in undue mobility (Minz, Banzet). This variation would be harmless if it were not for the relatively short course of the duodenum and the fixation of the duodeno-jejunal angle to the posterior abdominal wall by the ligament of Treitz.

4. Non-rotation of the duodenum so that the jejunum comes off to the right instead of to the left of the spine (Banzet, Wanke). This anomaly, which is said to occur in 1 per cent of cases, may produce stasis in the same way as non-fixation.

5. High fixation of the duodeno-jejunal angle with or without adhesions in the fossa of Treitz (Freeman, Judd). This arrangement increases the opportunities for kinking.

Anomalies 2, 3, 4, and 5 were encountered too seldom in our series to admit of statistical study. Lack of time has prevented investigation of all varieties of duodenal bands as represented in the present series, but the findings in a specially selected group are reported in the following section.

Duodenal Bands.—The hepato-duodenal and hepato-colic ligaments are attached to or cross the duodenum in its first or second portion. When the first portion alone is involved, various deformities of the cap are observed roentgenologically. The present study has been limited to bands involving the second portion. These pull the duodenum out to the right more or less along the border of the liver. This arrangement acts as a point of irritation or transient stasis so that delay in motility and retroperistalsis are frequently observed. The most frequent associated anomaly is the low cecum.

Duodenal bands occurred in 85 (about five per cent) of 1,754 X-rayed cases. Females constituted 79 per cent of the number, and asthenics predominated over sthenics in the proportion of 53 per cent to 8 per cent.

The symptomatology is characteristic. In most cases both general and local manifestations are present. The general complaints ("duodenal migraine") include nausea (44 per cent), headaches (44 per cent), vomiting (41 per cent), and vertigo (20 per cent), which occur from two to three or more times as often as in the unselected series (Table 1). The local symptoms are epigas-

tric pains resembling either duodenal ulcer or gall bladder disease.

The treatment of this condition is both medical and surgical. Most cases respond to correction of the accompanying ptosis, improvement of nutrition and restoration of colon function. Rest in the prone position is helpful. A few well selected cases are relieved by surgical treatment—division of adhesions, short-circuiting operations.

Diverticula.—These are congenital in the same sense as are the pulsion diverticula of the esophagus previously described. They occur almost always on the mesenteric aspect of the duodenum at weak spots in the musculature through which the vessels pass. They are occasionally associated with ectopic pancreas tissue. Sometimes these diverticula are a part of a more generalized diverticulosis involving not only the gastrointestinal tract but the urinary bladder as well. Duodenal diverticula may be single or multiple and are found most often in the second portion of the organ, usually in the neighborhood of the papilla of Vater. It is not unusual for the pouch to extend into or through the pancreas. In most cases the muscularis is lacking in the wall of the diverticulum (Case, Cole).

The diagnosis is made readily on roentgen examination, although in some cases careful fluoroscopy with blocking of the distal duodenum, as recommended by Case, is necessary for visualization. In the present series, 16 cases were encountered, an incidence of less than 1 per cent. The incidence in the literature varies from 1 to over 3 per cent. In our group there were 9 males and 7 females, and the sthenics outnumbered the asthenics by 8 to 3.

As with other anomalies, symptoms may be entirely lacking. In some cases the clinical picture may resemble either duodenal ulcer or gall bladder disease. The specific symptoms are either those of duodenal irritation (pain) or of intermittent stasis. In the latter case the syndrome of "duodenal migraine" may be present (see above).

Operative therapy is indicated in the more severe cases. Excision is the ideal procedure, but inversion may be all that can be accomplished in some instances. Occasionally identification of the diverticulum on the operating table is a matter of great difficulty. Two of our 16 cases were operated on, one with complete relief following excision, the other with only partial success, following inversion.

THE JEJUNUM AND ILEUM

Diverticula.—Diverticula of the jejunum and ileum resemble those of the duodenum in their pathology. Their occurrence is rare. Spriggs and Marxer found seven in the jejunum, a similar number in the ileum (excluding Meckel's diverticulum) and six in the appendix in a series of 1,000 consecutive X-rayed patients. Case has reported five cases in the jejuno-ileum, in 6,847 examinations. But one case of jejunal diverticulum was observed in our series—apparently an accidental finding. Although usually quite harmless, these pouches may occasionally undergo the changes characteristic of diverticulitis elsewhere in the digestive canal.

Meckel's Diverticulum.—This structure represents the incompletely absorbed omphalo-mesenteric duct of the embryo. According to anatomists it is present in approximately 2 per cent of the adult population. Although identified in 1.5 per cent of all operated cases (Balfour), it is extremely difficult to recognize roentgenologically. Not one case has been recognized in the present series, nor have I seen it in at least an equal number of hospital and clinic cases.

Meckel's diverticulum is, nevertheless, of clinical interest (Aschner, Foss). Not only may it be the site of mechanical obstruction (chiefly strangulation, less often intussusception), or of inflammation, but in some cases, it may harbor ectopic gastric mucosa which may undergo inflammation, ulceration, hemorrhage or perforation just as in the stomach proper. In addition, Meckel's diverticulum may be the site of congenital ileal fistula, or tuberculous ulceration, or of perforation in typhoid fever or by a foreign body.

Congenital atresia may occur as a rare anomaly. A case was reported before a local medical society by Neff. The patient was a boy of 14 who suddenly developed intestinal obstruction. At operation the terminal ileum was represented by a narrow fibrous tube of less than lead pencil caliber. The patient recovered completely after resection of the affected part.

Retroperitoneal Hernia.—This is a rare condition which may occur in the following forms: 1. Paraduodenal; 2. Paracecal;

3. Intersigmoid; 4. Hernia into the lesser sac through the foramen of Winslow or through a hole in the transverse mesocolon. The most common varieties are the first and last. Heretofore these herniæ have been recognized only on the operating or post-mortem table, but with the advent of the X-ray an earlier diagnosis has been made possible. Case has pointed out the chief roentgen criteria, namely, confinement of the involved small intestine in a small spheroid zone, and fixation of the intestine to that zone in the erect as well as in the prone posture.

The symptoms of retroperitoneal hernia are really those of chronic or intermittent intestinal obstruction. One case of paraduodenal hernia was encountered in our series.

The patient was a man of 50, who in December, 1922, developed vomiting with sharp cutting pain in the left epigastrium and hypochondrium. Physical examination at that time was negative. Test meal revealed high acid figures. Roentgen study showed that the pyloric end of the stomach was displaced somewhat to the right and that the small intestine was all crowded into the left abdomen, with the exception of one loop, which described almost a complete circle and occupied practically all of the false pelvis. The significance of these findings was overlooked at the time. From December, 1922, to June, 1923, the attacks recurred less severely every two to three weeks, but by the end of this period the seizures came on weekly and were accompanied for the first time by the vomiting of large amounts of bile. Physical examination now revealed a cyst-like mass, dull on percussion, occupying the mid-abdomen.

August 13, 1923, operation for supposed mesenteric cyst showed a thick walled cystiform mass the size of a small football which on close examination proved to consist of the retroperitonealized small intestine. A wide jejunum entered this mass above from the left, and a collapsed terminal ileum emerged from the right below. The abdomen was closed without disturbing the tumor and the patient recovered from the exploration and remained comfortable for over three years.

In December, 1926, there was recurrence of pain and vomiting of bile nightly. Obstruction was obviously present, with visible, painful peristalsis. January 19, 1927, second operation. The small intestinal sac was now opened and the "membrane" (posterior peritoneum) dissected off and the enclosed adherent bowel loops freed. Recovery was uneventful.

January, 1931. The patient has remained symptom free and in good health for the four years following the second operation.

Inguinal, Femoral and Epigastric Hernia.—Ordinary herniæ are really congenital in origin in the same sense as are diverticula of the alimentary canal. The ruptures occur at points of known fascial weakness corresponding to the exit of vessels from the abdominal cavity. In some cases, both the terminal sac and its contents exist at birth, in others the sac alone is present, but the contents do not enter until some later period (Moschcowitz).

In the present series of 3,000 cases, an actual or repaired inguinal hernia was encountered 127 times, an incidence of 4.2 per cent. Epigastric hernia occurred 12 times (0.4 per cent), whereas femoral hernia was present in but 7 cases (0.2 per cent).

BILE DUCTS

Atresia of the bile ducts is a rare anomaly, in which the bile fails to find its normal outlet into the intestine. Probably not over 200 cases have been reported to date. In the fetus, according to Ylppö, the extra-hepatic ducts are first patent, then lose their lumens through epithelial proliferation, and only later become patent again. When the final restoration of patency is incompete or lacking, atresia results. The characteristic jaundice appears soon after birth, but may be delayed for two or three weeks until the bile pigment storing capacity of the liver is exhausted. Since this condition is incompatible with survival for much over two months, atresia of the bile ducts is generally regarded as universally fatal. Recently, however, Ladd of Boston has pointed out—confirming his claims by several recoveries—that if either the gall bladder or the common duct communicates with the liver, an anastomosis with the intestine is technically feasible and may save life.

Acute Pancreatitis.—Although the etiology of this disease cannot be regarded as a closed matter, it has been pointed out by Mann and Giordano that the anatomic arrangement of the biliary and pancreatic ducts is such as to admit the possibility of

bile regurgitation into the pancreas in 3.5 per cent of subjects. Reasoning from the fact that pancreatitis was found associated with biliary disease in only 2.6 per cent of 1,280 operated cases of gall bladder disease (a figure well within the 3.5 per cent limit), and that in six of eight carefully studied cases of pancreatitis the anatomic possibility of biliary retrojection was confirmed, Colp argues that the occurrence of acute pancreatitis depends chiefly, if not exclusively, on the presence of a congenital anomaly of the ducts favoring retrograde bile passage into the pancreas.

COLON

Embryology.—In the course of fetal development, the colon undergoes the following progressive changes (Huntington):

1. Migration, during which the primitive intestine leaves the body cavity, enters the hollow umbilical cord, and returns to the abdomen. This journey is accomplished soon after the tenth week, and during this period the cecum makes its initial appearance.
2. Rotation, in which the cecum passes counter-clockwise from the mid-region at the umbilicus, upward, then from left to right across the duodenum, and finally reaches the subhepatic position under the right lobe of the liver at about the eighth month of fetal life.
3. Descent, in which the cecum progresses downward from the liver, crosses the crest of the ilium, and comes to rest in the middle of the right iliac fossa. Ordinarily this stage is reached at term, but the development may not be completed for a variable interval after birth.

Colonic anomalies are among the most interesting malformations of the digestive tract and are often hereditary and familial in occurrence. Some forms are so common as to play a rôle in the symptomatology of everyday life. The following groups may be distinguished:

1. Anomalies of length.
2. Anomalies of rotation.
3. Anomalies of descent.
4. Anomalies of fixation.

1. *Anomalies of Length.*—These include the abnormally short and the long (redundant) colon. The former is probably not responsible for symptoms, unless increased colonic irritability be regarded as such.

The Redundant Colon.—The redundant colon is one which is too long to fit into the body of its owner without undergoing reduplication. The distal colon is the part usually affected, the most common variety being an enlarged sigmoid loop centrally placed and rising well out of the pelvis. The diagnosis of this condition is made by roentgen examiantion after the opaque enema to show the form, and after the opaque meal to show the function, of the large intestine. In many cases the stomach is deformed and displaced by the elongated bowel segments.

In 1,614 X-rayed patient, 258 cases of redundant colon were encountered, an incidence of 16 per cent. Both sexes and both extremes of habitus are affected with approximately equal frequency.

The chief symptoms are constipation, pain, and gas distress. The constipation, which is the outstanding manifestation, occurs in 69 per cent of cases, usually dates from birth, and is characterized by long intervals between stools. Gas distress is almost twice as frequent (70 per cent) as in the general series and is often localized to the region of the loop. Pain at various points in the course of the colon, may suggest carcinoma, heart disease, gall bladder disease, or appendicitis. Volvulus can occur only in redundant colons. It is probably the result of too violent efforts at purgation.

The management of redundant colon consists essentially in the withdrawal of all forms of colonic abuse and the restoration of normal function by conservative measures. Surgical intervention should be reserved for cases of volvulus only.

2. *Anomalies of Rotation.*—Non-rotation of the colon is revealed by the presence of the cecum in the left iliac fossa. The ascending colon remains in the left half of the abdomen and the terminal ileum enters the colon from the right instead of from the left side. Since the anomaly is very rare—but two cases were encountered in the present series—it is still impossible to evaluate the clinical significance of this condition.

3. *Anomalies of Descent.*—These include arrested descent of the cecum (high cecum), and hyperdescent (low cecum). In the majority of cases (75 per cent) however, the cecum comes to lie in the normal position, at the middle of the right iliac fossa.

High Cecum.—The cecum may be arrested in its descent at any stage between the liver and its normal position. All ceca occupying a position not lower than the upper third of the iliac fossa may be conveniently grouped for study under the term "high cecum."

The diagnosis of this condition is best made roentgenologically nine hours after the ingestion of an opaque meal. In 1,583 X-rayed cases high ceca occurred 102 times (6 per cent). Males predominated strikingly over females (73 per cent vs. 27 per cent), as did sthenics (71 per cent) over asthenics (5 per cent).

On the whole this group is composed of robust individuals, remarkably free from the common manifestations of digestive upset, such as headaches, vomiting, and constipation. The chief point of interest in high cecum is its relation to appendicitis. Owing to the high location of the appendix, the clinical picture may resemble acute cholecystitis more than appendicitis. Furthermore, the presence of actual inflammation ("pus appendix") is over twice as likely (36 per cent) in the high cecum as in the average appendectomy case (16 per cent), and more than three times more likely than in low cecum (10 per cent) (Table 5).

Low Cecum.—The low cecum is the result of embryologic hyperdescent, the organ coming to rest in the true pelvis. The diagnosis is best made nine hours after the ingestion of the standard opaque meal. In the present series the cecal tip was fixed in 32 per cent of the cases. The most common associated anomaly was duodenal hyperfixation (bands) which occurred in twice (11 per cent) the usual proportion of cases.

Low cecum was observed 284 times in 1,581 X-rayed patients—an incidence of about 18 per cent—making it the most common anomaly of the colon. Women constituted 72 per cent of the cases and asthenics predominated over sthenics in the proportion of 4 to 1.

The symptoms produced by the anomaly are of two orders, general and local. The general symptoms are the same as those previously described as "duodenal migraine." Vomiting occurs in 43 per cent and headache in 38 per cent of cases. These symptoms come on as a result of strain, fatigue, excitement, dietary indiscretion or menstruation.

The local symptoms are referable to the right lower quadrant where both pain and tenderness considerably exceed the general incidence of these findings. Cecal stasis aggravates the local discomfort. It is undoubtedly for this reason that low cecum patients constitute the most frequently appendectomized group of colon anomalies (Table 5). As a matter of fact, appendix removal is unwarranted because the operative findings reveal the smallest proportion of "pus" cases of any group studied in the present series.

The explanation of the general symptoms in low cecum is interesting. According to the best available evidence the actual cause of the symptoms resides in the duodenum, where transient blocks are produced. These transient retentions are assumed to result from the intermittent drag of the low cecum, the pressure being mediated through any of the structures that cross the second or third portion of the duodenum as already described.

TABLE 5

RELATION OF APPENDECTOMY TO COMMON COLON CONDITIONS

Incidence of Appendectomy	Cases	Per Cent
In 3,000 unselected cases (general incidence)	517	17.2
Clean cases	408	83.6
Pus cases	80	16.3
In 258 cases of redundant colon	50	19.3
Clean cases	42	84.0
Pus cases	8	16.0
In 300 cases of colitis	68	22.7
Clean cases	53	77.9
Pus cases	15	22.0
In 102 cases of high ceca	24	24.0
Clean cases	14	63.3
Pus cases	8	36.3
In 284 cases of low ceca	70	24.6
Clean cases	62	89.9
Pus cases	7	10.1

The medical management of the low cecum suffices in the great majority of cases, and consists of treating the asthenic habitus, fattening the patient, controlling the neurosis and relieving the cecal stasis, as far as possible, by improving distal colon function.

In rare, carefully selected cases, colofixation may possibly be indicated.

4. *Anomalies of Fixation.*—These include hyperfixation and hypofixation of the colon, more particularly the proximal segment. Despite a considerable literature, the exact clinical significance of these conditions has not been adequately studied by modern methods. Hyperfixation implies reduced

mobility of the ceco-colon by fixation above (hepatico-colic bands), across its surface (Jackson's veil), or below by peritonealization of the normally free cecum. The old terms "typhilitis," "perityphlitis," and "chronic appendicitis" have been applied in this connection.

Hypofixation is due to persistence of the primitive mesentery (mesocolon) on the right side. This is said by anatomists to occur in about one-fifth of all cases. Volvulus of the cecum is an occasional complication of hypofixation. The old concept of "cecum mobile" and the new one of "right coloptosis" have been assigned as reasons for performing fixation operations in this region.

Diverticulosis.—As in the case of the small intestine the colonic pouches usually lie between the leaves of the mesentery, but may occur on the free surface or in the appendices epiploicæ as well (Case). Some of the diverticula contain all four coats of the bowel, whereas others are composed only of mucosa, submucosa, and serosa. In regard to etiology, the same ideas apply as have been stated in connection with the diverticula previously discussed, namely, the pouches do not necessarily exist at birth, but a congenital, localized weakness of the musculature is assumed to be present. As time goes on, the tone of the bowel wall may be further weakened by constipation and by the development of cathartic and enema habits. The diverticula are multiple, generally affect the distal colon, and are not uncommonly associated with diverticulosis elsewhere, as already mentioned.

Fifty cases were observed in our series, making an incidence of somewhat over 3 per cent. The distribution as to sex was about equal (27 females, 23 males) but the sthenic habitus predominated decisively over the asthenic (56 per cent vs. 10 per cent). Most of the patients were past middle life and constipation was more common (56 per cent) than usual (46 per cent).

Colonic diverticulosis is interesting because, like Meckel's diverticulum, it illustrates an important principle in anomalies, namely, that it may not be the anomaly as such that causes trouble, but some superimposed factor. In this case, the factor is inflammation, and when this occurs diverticulitis is said to exist. Diverticulosis alone is therefore asymptomatic, whereas diverticulitis presents a whole gamut of symptoms. In its mildest form it is associated with increased colonic irritability (simple colitis) the incidence of this condition in our series being 58.3 per cent as against a general incidence of 39.7 per cent in an unselected series of 934 cases. When the inflammation is more marked and localized we find the clinical picture of a left-sided appendicitis, with fever, vomiting, pain, tenderness, and rigidity. A still more serious and distressing variety is the indurative form, closely resembling pelvic colon carcinoma, with tumor, obstruction, pus formation and a grave prognosis. We lost one case of this variety.

ANOMALIES OF THE RECTUM AND ANUS

Malformations of the end-gut and proctodeum are rare, occurring once in every 10,000 births (Tuttle). The chief varieties are strictures, imperforations, abnormal openings, usually at the vulva in girls and at the perineum in boys. The more common associated anomalies, in addition to esophageal atresia, are cleft palate, nasal and pharyngeal obstruction, hypospadias, and exstrophy of the bladder. The graver forms are incompatible with life. The simpler varieties, such as imperforate anus, may be corrected by appropriate plastic procedures.

SUMMARY

1. The field of digestive anomalies is reviewed for the purpose of emphasizing their clinical significance.

2. Original statistics are presented whenever possible, from a series of 3,000 private cases which was used for a combined clinical and roentgen study.

3. Among the subjects treated in greater detail are body habitus, duodenal bands, colonic anomalies, and the relation of appendectomy to body habitus and some of the more common conditions of the colon.

4. The most common digestive anomalies causing symptoms are those of the duodenum and colon.

5. The most common symptoms due to digestive anomalies are vomiting, headache and constipation.

6. The most serious complications of digestive anomalies are volvulus and diverticulitis.

BIBLIOGRAPHY

Note: An extensive bibliography accompanied this paper. It is too long to print here but will appear in the author's reprints.

DIAGNOSIS OF MILD HYPOTHYROIDISM

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For two months I have tried to induce the Journal* to print correctly the title of the paper which I was to read at this meeting. Each time the proofreader has substituted "hyperthyroidism" for "hypothyroidism." My aggravation turned to pleasure when on second thought I realized the significance of this mistake. It has provided me with a most appropriate text. The proofreader insisted on the word hyperthyroidism because that is the only word he knew. Which is fairly typical of the medical world in general. We know hyperthyroidism well and feel familiar with it. But of hypothyroidism we hear but little and we scarcely recognize the word or the clinical picture it represents. Yet it is probably the most common of all chronic diseases in Michigan.

The examination of a large number of school children anywhere in our state will reveal a number with thyroid enlargement. I have seen a dozen or more girls in succession showing this abnormality. Systematic study of thousands of children in primary grades and in high schools has shown that from 25 per cent to 45 per cent have simple goiter.

Simple goiter in childhood is in reality hypothyroidism. The enlargement is a hypertrophy due to overwork of the thyroid gland and pathologically it consists of a hyperplasia of the parenchymal cells. The hyperplasia was produced because the gland was unable to meet normally the demands made upon it. Such over-development occurs where iodine is lacking, and may be prevented by the administration of iodine. Systemic infections increase the load on the thyroid and predispose to hyperplasia. Puberty acts in the same way, and produces similar enlargement.

SIMPLE GOITER IS HYPOTHYROIDISM

Essentially thyroid hyperplasia is hypothyroidism, or, at least, is due to hypothyroidism. The gland having been unable to secrete sufficient thyroxin, becomes hypertrophied in the effort to compensate for the deficit. As long as this effort toward compensation is successful the body generally does not suffer. That represents hypothyroidism in its simplest form, all the pathological changes being restricted to the thyroid itself. Such is the picture presented in all these children who have palpably enlarged thyroids, but no other evidence of disease. Presumably, such a condition may persist for years without further complication. In favorable cases it may even resolve itself back to a normal status. On the other hand, the compensatory effort may fail to supply the needs sooner or later, and then the body generally is affected.

Hyperplastic goiter in young children occurs equally in the two sexes. It is only at or near puberty that the preponderance in girls becomes evident. After puberty the condition is nearly twice as common in girls as it is in boys.

The hyperplasia may occur at any age. It has been seen at birth and may develop during the early months of life, even while the child is nursing at the breast. At six years it is already common, and during the high school years as high as 45 per cent may present this enlargement.

HYPERPLASTIC GOITER WITH SYSTEMIC EFFECTS

So far we have been considering a form of hypothyroidism manifested by hyperplasia of the gland without other signs or symptoms. The following case report will illustrate the second group, consisting of patients with a hyperplastic goiter in which the hyperplasia has not compensated fully for the deficiency of thyroxin and the general health is impaired.

Case 1.—E. L., a girl of 14 years, has had slight thyroid enlargement for several years. Her health has never been seriously impaired, but she has not been quite well since a year ago. At that time she developed a chronic ear infection. Removal of the tonsils did not entirely clear up the trouble in the ear, nose, and throat. During this time the patient has not done well in her studies. She is somewhat listless and her cerebration is retarded. The appetite is poor, but the weight is normal. Her skin is dry and the complexion is not clear. A metabolism estimation was not made, but the diagnosis of hypothyroidism is justifiable.

This patient might have escaped the systemic damage if it had not been for the ear

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*Not the *Journal of the Michigan State Medical Society.*—Editor.

infection. The compensatory hyperplasia was not sufficient to maintain the body metabolism so as to take care of the overload due to infection.

This picture, frequently seen in childhood, is also duplicated in adults.

Case 2.—Miss A. M., age 25 years, has been slightly unwell for seven years. The chief symptoms are breathlessness, fatigue, and scanty menstruation. The patient's weight has gradually increased, and is now 20 pounds over the normal. The temperature, pulse rate, blood pressure, and metabolism rate are all within normal limits.

The diagnosis might well be overlooked in a patient with so few symptoms as given above. The therapeutic test of thyroid extract administration offers strong confirmation, however, that the condition is one of hypothyroidism. All the symptoms were relieved promptly after this treatment.

Case 3.—Mr. W. S., 51 years of age, was referred for general examination because a rectal operation wound failed to heal normally. He complains of dyspnea, swelling of feet and hands, sensitiveness to cold, fatigue and weakness. The examination shows edema of the feet and fingers, very low blood pressure, dry skin, slow pulse, low temperature, slight obesity and a metabolism rate of minus 7 per cent.

Case 4.—Mrs. T. H. M., age 45 years, states that she never had a normal menstruation. To relieve the menstrual distress both ovaries were removed at the age of 25 years. The menses stopped, but her health has been poor ever since. Her hands are cold and numb. Edema is present. She is 80 pounds overweight. Always tired. Temperature normal. Blood pressure slightly elevated. Metabolism rate minus 13 per cent.

These patients exhibit various degrees of hypothyroidism but none of them more than faintly resembles myxedema. There is a definite gradation of symptoms from simple goiter on the one hand to myxedema on the other. If we imagine a pyramid to represent this gradation we might place myxedema below for the broad base of the figure. The tapering apex would be the hyperplastic or simple goiter. The main body between these two would be occupied by hypothyroidism. The relative size of the apex, mid-section and base would be roughly proportionate to the severity of hyperplastic goiter, hypothyroidism and myxedema respectively.

THE SYMPTOMS OF HYPOTHYROIDISM

What then are the characteristic symptoms and signs of mild hypothyroidism? These can largely be grouped under the general heading of lowered metabolism and lessened energy production. The corresponding symptoms and signs are mental retardation, obesity, poor appetite, drowsiness, fatigue, poor circulation, coldness, numbness, edema, slow pulse and low temperature. A second group dealing with the condition of the skin would include infiltration, lack of perspiration, hair-loss and acne. A third group emphasizes the relation to the other endocrine glands as manifested by dysmenorrhea due to ovarian disturbance, low blood pressure and breathlessness due to adrenal deficiency, impotence due to the gonads and finger tingling or numbness possibly due to the parathyroids.

Not all of these symptoms are necessary for a diagnosis. Advanced myxedema may exemplify all of them but mild hypofunction may give rise to only a few of these abnormalities; *e.g.*, fatigue, numbness, slight edema, breathlessness and menstrual disturbance.

DIFFERENTIATION FROM HYPERTHYROIDISM

There is no clear line of separation between hypo- and hyperthyroidism. One condition is frequently mistaken for the other. In either case the patient may show nervousness, sweating, tremor, increased reflexes, tachycardia, and menstrual disturbances. The temperature may be elevated slightly in hypothyroidism and the blood pressure also. The metabolic rate may be the only definite sign in a doubtful case. Repeated metabolic readings of plus 20 per cent or over are diagnostic of hyperthyroidism. A definitely low metabolism is rare even in hypothyroidism, most cases varying from plus 10 per cent to minus 15 per cent.

CONCLUSION

A mild hypothyroid state is a common clinical entity in Michigan.

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A CLINICAL STUDY OF MYXEDEMA IN MICHIGAN

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The relation of myxedema to the geographic distribution of goiter has received scant attention in America. In 1894 Dock[1] in speaking of the apparent prevalence of goiter before the Michigan State Medical Society remarked that myxedema was not as prevalent in Michigan as one would expect, from comparison with other regions of the globe affected with goiter.

Since that time there have been reports of sporadic cretinism in the United States, particularly by Osler[2] and Hammond[3] and although several cases were reported from Michigan there has been no work to show that in this country cretinism and myxedema are more common in goitrous areas. However as the state has grown in population and institutions, it has not been difficult to discern the frequency of both diseases as compared with other localities. One example concerning cretinism is found in comparing the incidence of the condition in the Wayne County (Michigan) Training School for feeble minded children and a similar institution in Eastern Pennsylvania, at Elwyn.[4] In the Michigan institution there are 3 to 4 cretins constantly under treatment while at the Elwyn Home only one such child has been seen in several years. It has been the impression of the staff of the University Hospital that myxedema is considerably more prevalent among Michigan residents than is found in teaching hospitals in non-goitrous states.

In a six year period 1924–1930 we have studied 64 cases of idiopathic myxedema, 58 of them citizens of the State of Michigan, three from Ontario, two from Ohio, and one from South Dakota. The distribution as to counties followed closely the concentration of the population. Only eight of the patients in this series had been born in foreign countries.

In five of the cases a history of previous goiter was obtained, but in many of them such a finding was denied, none were found on examination and the opinion of both Ord[5] and Howard[6] that a preceding goiter would be present in many cases if looked for, still remains to be substantiated.

The widespread utilization of basal metabolic determination in clinical medicine has led some clinicians to divide myxedema into two classes, based on the supposed relative severity of thyroid insufficiency, those called hypothyroidism and those designated as true myxedema. There are several reasons why this classification is unacceptable. It is probable that we have leaned too heavily upon the laboratory data, and that the standard normal basal metabolic rate (+ 10 to — 10) is more flexible than is generally supposed. On the other hand early cases of true myxedema are not difficult to recognize when all factors are considered, while the diagnosis "hypothyroidism" rests heavily upon a laboratory factor.

It is not uncommon to find perfectly normal young individuals with basal rates of more than minus 20 per cent and in these cases the clinical response to specific medication should form a part of the diagnositic criteria, together with the clinical findings, before we accept the term "hypothyroidism" as a diagnosis in individual cases. J. L. Miller[7] insists that clinical myxedema should be accepted as the criterion of hypothyroidism.

The basis of the clinical diagnosis in myxedema consists of evidence of retarded body processes; this always is general, although at times one system manifests the effect more than others, and it is only by keeping this point in mind that the diagnosis regularly can be made. One case may show, as the outstanding clinical finding, anemia, another dyspnea, and another gastro-intestinal symptoms, thus making it necessary to study each system of the body for evidences of a "slowing-up" process. Particularly mental symptoms are notable in young patients, while gastro-intestinal complaints, or general weakness, may be prominent in older people. In this series, weakness, above all other symptoms, was the most common as well as a very frequent early complaint.

Aside from the clinical evidence bearing upon the diagnosis there are two features of the disease which remain quite constant; one is the lowered basal metabolism, and

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the other is the sensitiveness which these patients exhibit to specific medication. It requires much less thyroxin to raise the basal metabolic rate 10 per cent in myxedema than it does in a normal individual. This fact has been noted by many writers, but its practical application has not received general attention.

The clinical study of myxedema is best undertaken by observing and interpreting the changes which occur in the various systems of the body.

The most striking points in the appearance of the patient with myxedema from the diagnostic standpoint are the retarded growth of hair, and absent or diminished sweating. We have found these to be the most constant easily discernible findings in both the early and the outspoken cases, and they appear to be more important than the "myxedema" upon which so much emphasis has been placed.

It was our impression that in this series the younger patients form a proportionately larger group than in those gathered without reference to geographic distribution.

Table I gives the age and sex incidence of the series:

TABLE I

Age groups	Male	Female	Totals
15–20	0	9	9
21–30	0	8	8
31–40	4	7	11
41–50	7	10	17
51–60	4	13	17
61–70	1	1	2
	16	48	64

It should be noted that the age incidence is taken from the time of admission to the hospital and that if it were to be taken at *age of onset* the percentage incidence of younger patients would be much higher than that given. Myxedema is thought, commonly, to be a disease of middle life. However, in contrast with figures given by Dock,[8] in this series there is a general, rather than a specific, age distribution.

The diversity of symptoms in myxedema is shown by an analysis of the chief presenting complaint as shown in Table II, which illustrates the predominance of "weakness" over mental symptoms. It was noted in the histories that, even when mental symptoms occur, the complaint of weakness usually is present.

TABLE II

Weakness or dyspnea	32
Mental	15
Gynecological	6
Digestive	4
Skin lesion	3
Anemia	2
Obesity	2
	64

Taking up consideration of secondary signs, it is found that thirteen, or 20 per cent, of the patients were obese. Should this be found true generally, the current conception that patients with myxedema are fat has no foundation in fact. Of the patients of this series who either lost or gained before admission, sixteen increased in weight and eighteen lost weight, indicating that appetite and activity probably influence gains and losses in weight as in normal people. It is to be emphasized that the diagnosis of early or mild myxedema should be made with caution in obese persons, always taking into consideration dietary habits, age, familial disposition and menopause, and remembering that *obesity emphasizes rather than submerges the characteristics of the disease.* In speaking of obesity, we have in mind the usual definition of the term, that of extreme corpulency, and in this series the thirteen patients weighed more than 170 pounds.

The sex incidence in myxedema is predominantly female, but in this series 25 per cent of the patients were males, and this figure must be contrasted with that by Dock[8] as 7 to 1, thus conforming to the lessened preponderance of females with goiter in goitrous districts as compared with non-goitrous regions.

In considering the possible relation between the thyroid deficiency and the ovarian function, there were in this series 34 female patients between the ages of 14 and 51. Only 12 of these gave a history of menstrual disturbance, and this figure (35 per cent) might be obtained in any study of chronic disease in a small series of cases. There was no marked tendency for the disease to have its onset at the menopause.

Patients with myxedema are not particularly subject to infections, and the statement by Minot[9] that the deficiency in thyroid secretion is intensified by infection, is derived from the work of McCarrison, but we have not found it to be particularly convincing. One of our cases entered the hos-

pital with a perirectal abscess, and many patients dated the onset of their disablement from an attack of influenza or an upper respiratory infection.

Studies of the heart in myxedema have been extremely interesting and in this series, especially in elderly subjects, there is considerable evidence of either functional or organic heart involvement. In all cases in which electrocardiograms were done before and after treatment, changes from negative to positive T waves were noted. We have not noted the "dilated" heart shadow by X-ray, which Fahr[10] has observed, but in several cases without obvious cause (*i.e.*, hypertension) there was found a Danzier ratio of more than 0.50. In all such cases it is necessary to consider the presence of a pericardial effusion, as found by Ord[5] and by Hun and Prudden.[11]

In a significant number of the cases the pulse rate was normal or above normal and the slow pulse as a cardinal sign in myxedema has not been constant. However, in general the pulse rate *was slow,* and was noted to increase as the basal metabolic rate approached normal. There was no correlation between the degree of anemia and the pulse rate. If it were already normal, tachycardia did not occur under treatment.

Cardiac pain may be complained of in all degrees of myxedema and has been described by Sturgis.[12] Such anginal pain may be due to arteriosclerotic coronary vessels, or to the profound anemia which occasionally is prominent in the disease picture. In this series five patients had this syndrome and three were found to have a severe anemia. The vital capacity in myxedema generally is decreased and can be noted to approach normal as the patient responds to treatment.

There is no special tendency toward hypertension or nephritis in myxedema. Although functional tests of kidney efficiency are depressed, or more properly prolonged, we could find no predilection to nephritis. In one elderly woman, a post-operative myxedema, hypertension was present and the basal metabolic rate was +4 per cent. The clinical evidence for myxedema was outspoken and treatment caused improvement. It is not unlikely that occasional cases of this type appear, since it is recognized that hypertensive subjects sometimes have elevated metabolisms and in this case a true basal reading probably was not obtained. In only 2 per cent of our patients was there a trace of albumin in the urine, and the figure of 20 per cent given by Dock seems too high a general incidence for this complication. In our hands the standard concentration test yielded normal results if the tests were extended to 24 hours instead of the usual 18 hours, and it has been interesting to show that if water restriction is carried out as long in proportion to the basal metabolic rate, as in non-myxedematous patients the specific gravity of the urine will reach its expected height.

Almost all patients with myxedema have gastrointestinal complaints and constipation is unusually prominent among them as noted by T. R. Brown.[13] In 18 cases of this series which had routine gastric analyses only three showed the presence of free hydrochloric acid in the gastric contents, the remainder being achlorhydric. Since achlorhydria is almost equally prevalent among elderly patients with thyrotoxicosis, as well as a common finding in the aged, a specific statement about the relation of the thyroid gland to gastric secretion is not possible.

The skin lesions in myxedema are interesting and varied and they are a rather common finding in the disease. It was noted particularly that the "edema" was by no means "solid" in most cases, being more often extremely soft but non-pitting, and it might be said that the "solid" edema was seen in hardly half the cases. Myxedema, as such, must be considered as a fairly late sign in the disease, and then only in overweight patients. In this series diagnoses such as psoriasis, verruca vulgaris, dermatitis, ichthyosis, atrophy, and scleroderma were made.

A mild anemia occurs quite constantly in most cases, while occasionally it is severe, and this illustrates the predilection of the disease for one system in the body. Its type suggests a depression of bone marrow activity which might be due either to the absence of the stimulus of oxygen want, or to the generally lowered cellular metabolism. Since the white cells are depressed in number, the latter mechanism is more likely. In two cases of cretinism described by Osler, one gave a normal blood picture while the other showed a depression of bone marrow function. Two of our cases had pernicious anemia, and the detailed study of one of

them has been reported by Sturgis and Isaacs.[14]

All observers, including Ord, have noted a depression of the skin temperature in myxedema, and the complaint of increased sensitivity to cold is constant. On the other hand, Newburgh[15] has found that in an environmental temperature between 32° and 37° C. the myxedematous skin is warmer than that of normal subjects and from this we should surmise that these patients are almost equally sensitive to heat. The skin is unable to vaporize water in the normal range of temperature owing to atrophy of the sweat glands.

TABLE III

Basal Metabolic Rates on Admission

B.M.R.	No. of Cases
—15 to —20	13
—21 to —25	13
—26 to —30	24
—31 to —35	7
—36 to —40	7
	—
	64

It will be seen from Table III that in 40 per cent of our cases the basal metabolic rate was between 15 per cent and 25 per cent below normal. In analyzing the data further it is found that in the whole group most of the younger individuals had only a moderate depression of the basal metabolic rate, while the lower rates were among the older patients. Thus fourteen patients below the age of 25 had basal metabolic rates higher than —25 and there was only one patient in this age group whose initial basal metabolic rate was lower than —25.

The diagnosis of early myxedema often presents a difficult problem but the following clinical points are of value in confirming the finding of a lowered basal metabolism. First, the mental complaints of lack of interest in school work, inability of attention and sleepiness. Secondly, the feeling of easy fatigue and breathlessness without obvious cause. Thirdly a slight anemia, associated in young women with amenorrhea or menorrhagia together with pallor of the skin and poor appetite, similar to the early symptoms attributed to chlorosis. Retarded growth of hair and diminished sweating complete the diagnostic picture.

The early diagnosis is relatively more difficult to make in elderly people where overweight, constipation and psychoneurosis confuse the picture. Here the skin manifestations such as diminution of sweating, and dry, falling hair, together with slow speech and failing memory, should excite suspicion that the disease is present.

In all cases, and regardless of the basal metabolism, there should be an unequivocal improvement in the symptoms following exhibition of specific medication in relatively small quantities and without the patient's knowledge that he is taking a thyroid preparation. It should be emphasized that in the elderly patient treatment does not always have a miraculous effect and even when the basal metabolism is brought to normal the chronicity of the disease may have left its mark.

DIFFERENTIAL DIAGNOSIS

The diagnosis of myxedema comes as a surprise in a large number of cases. It has been our experience that it is rarely made by the inexperienced clinician, unless the disease is outspoken, and that cases often are referred to special departments by the younger men who are impressed by the fact that the patient's complaints are referred to some particular region in the body. Many of our cases were first seen as consultations for other departments.

The disease should not be considered one in which complications frequently arise, because these are instances in which one system of the body presents outstanding findings. Anemia, skin lesions, mental and cardiac complaints, and digestive disturbances illustrate this point, and, when considered in this light, complications as such are rare, and under specific treatment they usually improve.

TREATMENT

A study of the therapy of myxedema in this series has impressed us with the value of using relatively small doses of thyroxin or desiccated thyroid gland at the beginning of treatment, in contrast to the practice in some institutions of using larger doses at this stage.

It has been found practical and safe to use one to two grains of desiccated thyroid daily and reduce or increase the dose after one month as indicated by the basal metabolic rate. Especially in elderly individuals small doses seem to prevent the appearance of complaints such as headache, nausea and anginal pain which sometimes are seen un-

der heavy initial treatment. A slow but steady improvement in symptoms not only is less hazardous to the patient but it fosters encouragement to continue treatment when annoying signs of overdosage do not appear.

SUMMARY AND CONCLUSIONS

A series of sixty-four cases of myxedema have been studied with reference to geographic distribution, age and sex incidence, predominant symptoms and diagnosis.

It is concluded that myxedema is more common in the Great Lakes goiter district than in non-goitrous regions. With this increased incidence there is a wider diversity among the age groups affected by the disease, and a more equal sex incidence than that generally given.

The most common presenting symptom of the patients in this group was weakness, and a tendency of the disease to manifest itself more severely in one organ or system was noted. There was no special tendency of myxedema to accompany obesity, and many patients lose weight during the course of the disease.

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INTESTINAL DISORDERS—NECESSITY FOR SPECIFIC DIAGNOSIS AND RATIONAL THERAPY

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Disorders of the intestinal tract have in the past few years assumed greater importance, and justly so, since our improved methods of examination have allowed a more definite diagnosis. The clinical picture supplemented by X-ray observations and careful laboratory studies now makes possible a reasonably high percentage of accurate diagnoses. With such aids within the reach of practically all physicians, it is somewhat of a reflection on the profession when we realize the great number of intestinal cases that are never properly diagnosed, or at least not until late in the course of their illness. Empiricism both in diagnosis and treatment was formerly the vogue and unfortunately that day has not entirely passed. Our patients have just reason to believe that an intestinal disorder will be as carefully studied as disorders located in any other part of the body but this is not yet entirely true. There was a time when such diagnoses as autointoxication, intestinal toxemia, et cetera, might have been accepted as accurate, but fortunately that time has passed. While we are still compelled to diagnose certain cases as functional, we do so only after very careful and painstaking study.

One of the first problems which we wish to discuss has been brought to your attention a great many times but our observations would lead to the belief that we are not sufficiently awake to the necessity of an early diagnosis of malignancy in the intestinal tract. I think experience would prove that early surgery on these lesions promises a probable cure in the majority of cases, but if the case is allowed to drag on for several months the possibility of complete surgical relief is greatly lessened. We are too prone to treat the patient that comes to us complaining of abdominal discomfort as a possible functional case. We conclude that he is a psychoneurotic and allow him to drag along until he develops a tumor mass which cannot be overlooked or until the loss of weight and secondary anemia stamps the case as a far advanced malig-

nancy. We are constantly encountering cases that should have been diagnosed much earlier and where their chances of recovery have been greatly reduced. I will admit that the "cancer phobia" has affected many of our patients but this should not prevent our using every means at hand to prove that their cases may not be one of malignancy. The laity have been educated by the profession to be on the lookout for possible early malignancy and we must not allow them to feel that we are unsympathetic and unwilling to give them as definite information as is possible to obtain.

In the past few years we have been impressed with the distribution of cases where the colon dysfunction has been due to parasites. Formerly we expected to find the endameba histolytica only in patients from the tropics or at least the semi-tropical regions. We now recognize that the distribution of the endameba histolytica is general and when a case comes complaining of diarrhea, no matter what his geographical location may have been, a very careful study of the stools should be made for parasites. In possibly fifteen to eighteen per cent of diarrheal cases the endameba histolytica is found to be the causative factor although a very careful differentiation has to be made in cases where blood is present, to exclude tuberculosis, chronic ulcerative colitis and malignancy. In chronic cases where the endameba has buried itself, it is very difficult to detect the parasite in the stools and where ulceration is present in the lower bowel the curettings of the ulcer are more apt to reveal the presence of this parasite. Other parasites frequently found are the Giardia intestinalis, the endameba coli, endolimax nana, trichomonis hominus, chilomastic mesnili, but their pathogenesis has not been so definitely proven in cases of diarrhea.

It is often difficult to differentiate between amebic dysentery and chronic ulcerative colitis, previously diagnosed as nonspecific ulcerative colitis. The typical chronic ulcerative colitis is a very serious organic disturbance; if not recognized early and promptly checked great damage is apt to result and surgery may be necessary. It is recognized usually by the proctologist. His findings are minute pinpoint ulcers in the lower sigmoid or upper rectum which bleed after the lightest stimulation. The diarrhea and tenesmus in these cases are very severe; the stools are bloody and a secondary anemia develops very quickly. There are remissions and exacerbations which cannot be accounted for by the method of life. No known specific has been found for this troublesome disease. Vaccines have been used with some degree of success but only in certain cases. Some respond very satisfactorily to rest, bland high vitamin diet and topical applications, while in the more severe cases nothing which we can do seems to alter the course of the disease. Glucose intravenously or transfusions may be necessary and opium is frequently demanded. We have observed some cases of chronic amebic dysentery which later on exhibited definite symptoms of chronic ulcerative colitis with absence of the endameba histolytica.

Another condition which has come to light since the X-ray has been used in the diagnosis of gastro-intestinal conditions is diverticulosis. We find that no part of the digestive tract is immune but the portions particularly susceptible are the duodenum and the distal portion of the colon. Inflammation in a diverticulum may be very serious. To be able to recognize this is very essential both from a diagnostic and therapeutic standpoint. We have found several cases of diverticulitis of the colon secondary to an acute diarrhea. The symptoms frequently resemble an attack of acute appendicitis except that the localization of the tenderness may be on the opposite side from the appendix. Whether these diverticula are congenital or whether they are the result of bad colon hygiene we do not know, but in consideration of the possible seriousness of an attack it is essential to be on the lookout for them and their possible complications. The complication most likely to result is temporary obstruction which may require operation, or pus formation and localized peritonitis.

The proctologists also quite frequently report papillomatous growths in the rectum and lower sigmoid which they advise should be removed either surgically or by means of the electric current. And here permit me to pay a tribute to the proctologist. He frequently discovers malignancy in the sigmoid and rectum before it could be discovered by X-ray examination. His help in diagnosing and treating ulcerative colitis is invaluable

and in cases of hemorrhoids and rectal ulcers his work is of the greatest importance. So if we do not have a trained proctologist to whom we may refer our patients, we must do the work ourselves, as no examination of the gastro-intestinal tract is complete without a careful proctological examination.

Catarrhal colitis, acute and chronic, which at one time embraced in our textbooks almost the whole field of intestinal disorders now occupies but little space. While we recognize such a condition particularly in the acute stages, it may also become chronic. It is sometimes difficult to differentiate it from the more specific types, such as the tubercular or amebic. We do recognize acute types where the infection may be food-borne, but the chronic types are probably a continuation of the acute, due to a focus in some other part of the body. Intestinal stasis is supposedly a factor in its development and it frequently may be a complication of an intestinal disturbance that was originally a functional affair. Because of the spasticity in the distal colon a stasis develops in the cecum that may finally exhibit the characteristics of a chronic colitis. In the acute stages the outstanding symptoms are diarrhea, slight rise of temperature, cramping pains and an excess of gas. The stools always show an excess of mucus which is mixed with the feces. If it is not of the tubercular, malignant or parasitic type, relief should be obtained by regulation of diet, keeping the colon free from retained feces by enemata, and by the use temporarily of antispasmodics and soothing preparations such as bismuth, kaolin, etc. We observe it in cases of simple achlorhydria where it promptly clears up after the administration of hydrochloric acid. It is a very distressing symptom or complication in some cases of pernicious anemia. In cases of pellagra and sprue it is a most distressing symptom. In practically all of these conditions there is an absence of free hydrochloric acid and a very pronounced bacterial activity in the entire intestinal tract.

In consideration of intestinal disorders, we are compelled to admit that a considerable number are functional and that no organic basis at present can be discovered to account for the patient's symptoms. Yet it is in this group that we may make our greatest errors of diagnosis. I have observed, as have you all, hundreds of patients exhibiting right lower quadrant scars where the diagnosis had been "chronic appendicitis." The removal of the appendix had not relieved the symptoms but in many cases had aggravated them. I do not wish to be considered as denying the possibility of a chronically infected appendix but I do decry the effects of the operation on a neurotic individual suffering from an irritable or spastic colon.

The great majority of our functional cases might possibly be considered to be suffering from a spastic colon secondary to a neurosis or psychoneurosis. We may be making the mistake of overlooking a possible organic factor and at times we observe a catarrhal colitis affecting the proximal colon rather late in the case, probably due to prolonged stasis secondary to the spastic condition of the distal colon. This type of colon trouble is the one where obstinate constipation is so difficult to relieve, where the patient complains of lead pencil stools, where a purge is followed by an aggravation of the symptoms, especially by a marked tenderness over the pelvic colon. These are the cases where, on account of tenderness in the right lower quadrant, a diagnosis of chronic appendicitis is made and where operation does not relieve the symptoms; or where, because of right upper quadrant pain and tenderness, a cholecystectomy may not only fail to provide relief but may be risking the patient's life unnecessarily. The patient is fearful, does not sleep, constantly wishes to converse about his intestinal functions and may later become a profound psychoneurotic.

These cases formerly were diagnosed "autointoxication," "intestinal toxemia," etc. Their nervous symptoms were supposedly the result of the toxemia. We will have to admit that the intoxication theory sounds plausible to the patient and has been and still continues to be held by some of the profession. Quoting from a recent article in the *Medical Journal and Record,* August 20, 1930, Page 184 (Column 2, paragraph 2):

"Persons suffering from the indolic type of intestinal toxemia show clinical evidence of intestinal disorder and frequently symptoms of intoxication affecting the nervous system. Neurasthenic and even melancholic manifestations may be observed. Headache, migraine, myasthenia, fatigue, cyclic vomiting, and even epileptic seizures may supervene. This type of toxemia may directly affect the liver and kidneys and be a provocative factor in the development of arteriosclerosis, arterial hypertension and cardiovascular disorders."

This expresses the view held some fifteen or twenty years ago relative to the cause of neurasthenia which is an accompaniment of these cases. But more careful observation would warrant the belief that the intestinal stasis was a result and not the cause of the neurosis. Because of the unstable nervous state we have an undue vagus effect on the colon producing the spastic distal colon. This same author also apparently expresses the belief of a great number of the profession relative to the beneficial effects of colon flushing or irrigation (page 186, last paragraph, column 2):

"The author has had very satisfactory results in unloading the colon with a two quart irrigation, alkalinized, with the bag hanging about twenty inches higher than body of patient, and directs its use every second day for two weeks. Reclining on the left side, the patient's hips are elevated about four inches higher than the bed or table, and about one half the water allowed to flow in by gravity; massage the left side of the abdomen with a deep but gentle rotary motion upward as far as the ribs, while still lying on the left side; then place patient on back; allow balance of water to flow in, keeping up a gentle massage from left to right, then turn patient on right side for a few moments, and gently massage from above downwards. Then reverse the positions and massage until patient is in position as at the beginning. Now patient is ready to go to stool and should have a very copious unloading."

We do not wish to ignore the desirability of relieving intestinal stasis, nor the beneficial effects of changing the intestinal flora, or of providing a diet unfavorable to the action of putrefactive bacteria, but we do object to the conclusion that the greatest danger to our health is the products of intestinal activity elaborated in the colon. We will have to admit that much can be adduced relative to the toxins formed which, if absorbed, might possibly be of distinct harm to the organism, but nature has provided a triple line of defense against the products of intesinal toxema. Quoting from my article in the Medical Record, March 4, 1916:

"The first line of defense is the intestinal mucosa. Its secretions have a restraining effect on the intestinal bacteria and the bacterial toxins are in some way rendered harmless by them for an equal amount of toxin administered by mouth and by way of the portal vein. In the first instance the toxic symptoms were much less than when injected into the portal vein. It is quite well demonstrated clinically, as in obstruction of the intestinal tract, that when the intestinal wall is in part denuded of its mucosa, the toxemia is much more apparent.

"The second line of defense is the liver. Here it is that the indol, skatol and phenols are conjugated with the sulphuric and glycuronic acids to form products that are very slightly toxic compared with their antecedents. No doubt the liver has to bear the brunt of the attack and it is only because of its ability to form less harmful products of those intestinal toxins that the body is so immune from harm. It has been demonstrated that it retains a part of the phenol and indol which is not conjugated. Schupper is authority for the statement that the liver exerts, owing to the biochemic activity of its cells, a marked toxicolytic action on toxins and alkaloids. He demonstrated that the toxicity of the alkaloids—atropine, pilocarpine, cocaine and apomorphine—was reduced 50 to 75 per cent. Combe has worked out a urotoxic coefficient which was demonstrated by experiment on animals, both before and after ligation of the portal vein, and the conclusion is that the toxicity of the urine is proportional to the degree of hepatic insufficiency.

"The third line of defense he considers to be the glands of internal secretion, the thyroid, the suprarenal and the pituitary body. From our more recent knowledge, we are certain that they do exert some antitoxic action, as evidenced in the absence of their function in diseased conditions.

"It seems, then, that the body is well fortified against harm from the action of toxins of intestinal origin; and probably symptoms of intestinal intoxication result as frequently from the body losing its power to cope with what might be considered a normal amount of these materials as from an excessive formation of them."

We do not believe that these patients can be cured by attention directed to the intestinal tract alone. In addition to diet, physiotherapy and rational drug therapy, they also need psychotherapy. They are the cases that are so "miraculously" cured by the cultist and irregular practitioners, and not because of any special diet or any special treatment to relieve the intestinal stasis but because they establish faith in the minds of these poor invalids and after this is done the relief of abdominal pain and stasis is comparatively a simple matter. The profession need not be proud over its success in the treatment of the functional colon invalid and their lack of success has been largely because they were not willing to consider the value of suggestion in cases of functional nervous disorders. If they had done so and had used the most simple of measures such as a rational, well balanced diet, supplemented by lubrication as provided by mineral oil, these patients might have recovered. An antispasmodic may be required and I regard novatropine as of real value. Atropine may be used but it is more toxic than novatropine. Cases exhibiting undue restlessness and insomnia may temporarily require a mild sedative. Cathartics should be avoided. Where the constipation is severe we obtain excellent results by resorting to oil enemas. Sometimes the services of the proctologist are desirable, as hemorrhoids and rectal ulcers aggravate the stasis and intestinal spasm.

In the diagnosis of these cases I wish to

call your attention to the necessity of the barium meal rather than the barium enema. With the enema you may obtain a reasonably satisfactory appearance of the distal colon, while with the barium meal you will practically always obtain the typical findings of a spastic distal colon with lack of haustral markings and a dilated cecum, which on palpation is practically always sensitive, due to the dilation and chronic stasis in the past. Permit me to state that findings suggesting a catarrhal colitis may obtain in this particular portion of the gut.

In conclusion may I suggest that in my opinion we are making progress in our appreciation of the problems encountered in intestinal pathology, both the organic and functional disturbances. The latter in our experience far outnumbers the former. More than fifty per cent of our cases exhibit some form of functional disorder, at least in this number we are unable to diagnose an organic trouble of the intestine. An undue stimulation of the vagus is apparently the outstanding cause of functional disorders producing the spastic or irritable colon. This condition may persist for years, later developing into a mucous colitis so disturbing to the individual that life is a burden both to him and his friends.

THERAPEUTIC APPLICATION OF ULTRAVIOLET RADIATION*

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The employment of ultraviolet radiation as a therapeutic measure has increased rapidly within the last few years. The investigation of the physical properties of radiation and its clinical effects has given us new methods of attacking various diseased conditions. At the present time there are a number of different methods of employing ultraviolet radiation, and, as the study of the subject progresses, more will probably be brought to light.

It is the purpose of this paper to present some of the factors governing the therapeutic application of ultraviolet radiation and its use in the treatment of some diseased conditions. Consideration is first given to the principle sources of ultraviolet radiation. They are sunlight, the mercury arc and the carbon arc.

In many cases the employment of sunlight as a therapeutic measure is not satisfactory, since in this climate the period when this source may be used is limited to about four months of the year, and during this time to about four hours on clear days. It has been found from clinical experience that cloudy weather, wind and cold do not permit successful systematic exposure out of doors at a date earlier than the middle of May or after late September. Even if the weather is then suitable, the small amount of ultraviolet radiation in sunlight makes the exposure less effective. During the greater part of the four months when exposure can be carried out, the heat of mid-day is usually so intense that the debilitating effects may counterbalance the therapeutic advantages of outside exposure. It has been found practical, therefore, to expose patients only from eight until ten o'clock in the morning and from two-thirty until four-thirty o'clock in the afternoon. In addition to these limitations, the amount of ultraviolet rays received from sunshine changes from hour to hour because the quantity of dust and vapor varies in the atmosphere. However, the exposure of patients out of doors does have some advantages not found in treatment with artificial sources. The tonic effects of air currents striking the body surface and the effect of changed environment may have a marked action.

The mercury arc and the carbon arc are used to meet the demands for artificial sources, because they are readily available and provide a fairly constant and adequate supply of ultraviolet radiation. The mercury arc burner is a sealed tube of quartz, partly filled with mercury, from which the air has been exhausted. The quantity of ultraviolet energy produced by these burners depends upon the force with which the

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electrons of the electric current strike the atoms of mercury vapor in the tube, or, in other words, the voltage of the current passing through the tube. Most of these arcs are cooled by the surrounding air, but they may be slightly modified and placed in a housing cooled by a water-jacket. This arrangement allows the operator to bring the lamp close to the patient and is, therefore, suitable for the treatment of small lesions, exposure in cavities and the delivery of heavy dosage to a localized area in a short period of time.

In the operation of the second artificial source, the carbon arc, ultraviolet radiation is emitted from the carbon atoms and atoms of other elements, such as iron, tungsten or potassium, incorporated in the carbons. The spectrum of a carbon arc depends, therefore, upon the composition of the carbons as well as upon the electrical current.

Inquiry concerning the therapeutic value of various wave lengths in the ultra-violet region of the spectrum indicates that only those between 3,130 Angstrom Units (one Angstrom Unit equals one ten-millionth of a millimeter) and about 2,400 Angstrom Units are of major importance. In examining the spectrum of any source emitting ultra-violet energy we shall, therefore, be particularly interested in just this region.

The spectrum of the mercury arc shows ten principal wave lengths which have a physiological effect and which vary in their intensity. The spectrum of carbon is more uniform and, with the metals usually incorporated in it, supplies a great variety of wave lengths, while that of the sun, although somewhat similar as regards wave lengths, does not contain those shorter than 2,900 Angstrom Units.

These differences in output from the three sources show that their effects cannot be exactly the same. Unfortunately, at present we do not know how to make an accurate differentiation in therapy.

Since different wave lengths vary in their ability to penetrate the skin, it must be expected that there effects will be dissimilar, but dependent upon the skin layers which absorb them. This question of penetration has recently been investigated by Bachem of the University of Illinois[1] and by others who quite clearly indicated the slight depth of transmission. It was observed that at least 80 per cent of the longer therapeutic ultraviolet waves (3,000 Angstrom Units) were absorbed in the first 0.1 mm. of human skin. Shorter wave lengths were even more readily absorbed, because with radiation of 2,750 Angstrom Units wave length, all except 2 per cent failed to penetrate a greater depth. These findings will not apply, of course, to all human skin, since there is a variation in thickness of the different skin layers in individuals. The strata corneum, mucosum, and other layers of the skin have different absorption values for different wave lengths.

Another factor that must be considered is the specific effects of various wave lengths which have been studied by Sonne[2] at the Finsen Institute. His findings indicate that radiation having a wave length of 2,650 Angstrom Units most quickly coagulates protein; wave length of 2,400 Angstrom Units, or shorter, most rapidly causes hemolysis, while the maximum antirachitic effect is in the region of 2,804 Angstrom Units. These observations, with those of the German workers Hausser and Vahle,[3] who noted maximum erythema production with radiant energy of 2,985 Angstrom Units wave length, point toward the specific effects of different waves. At the present time we are not equipped to separate these wave lengths and apply them individually, but it should be remembered that the rays with maximum effect in the production of erythema are not the ones that produce the greatest effect as a prophylactic measure in rickets.

Opposed to this evidence of specificity there are the observations of Thomas Lewis,[4] a member of the British Medical Reserve Council, that all irritation produced much the same type of response in the skin and superficial blood-vessels. He felt that trauma, heat, cold, ultraviolet radiation and mustard plasters, if used to a sufficient extent, produced a somewhat similar response in the living epithelial cells. In the adoption of this theory he explained that the effect of irritation caused by any of these measures acts on the living epithelial cells, and results in the formation of a vasodilator substance much like histamin. He called this material "H-substance." Upon absorption of this substance certain characteristic reactions of the superficial blood-vessels were noted: first, a primary and local dilatation of the minute

blood-vessels of the skin; second, with diffusion of the "H-substance," a dilatation of the neighboring arterioles; and, third, with greater production, a local increased permeability of the vessel walls causing local edema and blister formation. If an area of skin is exposed so that a definite line of demarcation develops between the erythematous area and the normal skin, a blurring of the margins will be noticed in about twenty-four hours. He believes that this irregularity is due to the passage of a vasodilator substance from the irritated area into the neighboring blood vessels.

From the clinical standpoint general treatment may follow two lines. The first depends upon the well-known fact that proper irradiation of the skin causes a prophylaxis against the development of rickets. In substantiating this fact, Hess, of New York,[5] Steenboch, of the University of Wisconsin,[6] and many others carried on extensive research which gave us a new concept concerning photochemical activity. In a recent review of this work on ultraviolet radiation Clausen[7] has made the following statement, which well indicates the present status regarding its antirachitic use: "It is believed that the irradiation of ergosterol in the skin produces Vitamin D, and that the provitamin will remain in the skin until activated. Then it will become readily separable and made available for absorption by the blood stream and lymphatics."

The second physiological effect is not so clear, there being two possible explanations advanced. Lewis believed that the irritating effect upon the living epithelial cells caused the formation of a substance like histamin (H-substance) which acted as a vasodilator and upon absorption by the blood stream caused inflammation. Sonne, however, suggested that the effect was due to formation of a foreign protein or protein-like substance and caused a reaction similar to a mild protein shock.

Whether or not these theories give the exact explanation of the mechanism by which ultraviolet radiation produces its effect upon the body, clinical findings indicate that there is a definite stimulation of the resistive forces. This is indicated by the work of Eidinow of London,[8] who found an increase in the bactericidal power of the blood after irradiation. Concerning the effect on production of white blood cells, Edgar Mayer of Saranac Lake,[9] states that the majority of workers feel there is an increased count after proper ultraviolet therapy.

In the discussion of the treatment of specific conditions it must be borne in mind that exposure to ultraviolet radiation is suggested as an adjunct to other forms of treatment, and not advanced as a new method to succeed those of proved value.

The use of ultraviolet radiation in the treatment of extra-pulmonary tuberculosis first attracted the attention of the medical profession. It was applied to patients with skin tuberculosis and, later, to those with bone and joint involvements. Because these first trials met with success, it was natural that its effect should be tried in other diseased conditions. The result of these investigations has given us knowledge of a new agent of considerable therapeutic value.

There are at least five different effects of ultraviolet exposure. These depend upon the amount of radiation employed, the method of application and the diseased condition. General body exposure is used for two reasons: first, for the stimulative or tonic effect, and, second, for the antirachitic action. Local application is used to create a greater inflammatory reaction which will assemble resistive forces by providing a marked erythema, or it may be used simply as a bactericidal and stimulatory measure, or the rays may be applied in sufficient quantity to destroy the superficial tissues.

The practice of most physicians in treating bone and joint tuberculosis is to depend upon the stimulative effect of general body radiation and not upon local application. The body surface is at first exposed for short periods of time, depending upon the strength of the source of radiation. The exposures are gradually increased until the maximum tanning effect has been gained, and then continued with the same dosage, until a rest period is advisable. If unfavorable symptoms arise, the treatment should be decreased or discontinued. The most notable signs of improvement are: better general physical condition, gain in appetite, improvement in the mental outlook, gain in weight and decrease in activity of the lesion.

The local treatment of inflamed glands, sinuses and abscesses of a tuberculous nature has not been very successful, although it may assist in recovery when used with

general body exposure. This is as might be expected when we consider that healing of the local lesion depends to such an extent upon the systemic response.

The results from the treatment of pulmonary tuberculous lesions have not been encouraging, since in many cases the slight stimulatory effect resulting from minimal exposures has appeared to aggravate the disease. This does not mean that extra-pulmonary complications, such as enteritis, may not be treated, provided the amount of exposure is governed by the effect on the pulmonary lesion. The treatment of extra-pulmonary complications necessitates the use of much smaller doses than would ordinarily be given and is accomplished by gradually increasing the exposed area of the body as well as the length of exposure.

If we concede that the effect of general ultraviolet radiation, aside from the anti-rachitic effect, is due to a stimulation of resistive forces, it appears that such treatment would be of benefit to patients during the convalescence from acute and chronic debilitating diseases. An example of this use of the therapy is its application during convalescence after pneumonia. The administration of gradually increased doses which are not sufficient to cause a marked erythema of the skin may supply a tonic effect of marked value. It may readily be seen from this illustration that there are many other cases arising in a physician's practice in which the use of ultra-violet rays would be of advantage for this tonic effect.

As regards local lesions our attention is now directed to those of an acute nature, such as erysipelas and pyogenic infections of the skin and subcutaneous tissues. In the treatment of such lesions the production of a sharp local erythema seems to increase the local resistive forces by producing an inflammatory reaction outside of the tissues inflamed by the products of the infection. Ude, of Minneapolis,[10] has shown in a recent series of articles that ultraviolet radiation is the most successful agent available at this time for the treatment of erysipelas.

The employment of ultraviolet radiation in the treatment of rickets and as a prophylactic against this disease is well known. The amount of exposure necessary as a prophylactic, however, is not understood. Probably we give the children more than is essential, but it seems wise to err by administering an over-dose rather than an under-dose. When less than marked erythemas are produced, there seems to be no ill effect.

Regarding the treatment of "common colds," much has been written and enthusiastic claims have been made. The difficulty with these reports lies in the fact that the investigations have not been carried out on large groups with sufficient controls. It will probably be found that the general tonic effect of ultraviolet radiation during the winter months is of benefit to certain individuals, but it is not known to which patients, and to what extent such treatment provides a prophylaxis against upper respiratory infections.

In the next group are included such local lesions as ulcers, infected postoperative wounds and burns. In these the skin is broken, the superficial tissues are devitalized, and there is usually a secondary infection keeping up the irritation. The results with radiation have been quite satisfactory, although it is useless if necrotic material is not removed from the wound surface, so that the rays may penetrate the living tissue. Over-dosage will not only result in death of superficial tissue, but will greatly retard recovery of the lesion and valuable time will be lost. The effects of application in such conditions are dependent upon the superficial bactericidal action, the production of slight active dilatation of the blood vessels and possibly a stimulation of cell growth.

The last group of cases to be discussed illustrates the use of ultra-violet radiation as a destructive agent. An example of the powerful but superficial destructive effect of these rays is shown by the results on a patient who had a vascular nevus or "port wine mark" on his face. Destruction of the superficial blood vessels was secured by applying many times an erythema dose and the intensity of the color of the lesion was reduced about 50 per cent. It does not appear that this destructive dose, even if repeated three or four times, will result in any delayed tissue changes other than obliteration, of superficial blood vessels.

In summarizing the effects of ultra-violet radiation it should be remembered that the antirachitic action, the general tonic effect and the local stimulative, irritative, or destructive effects may all be used to advantage by the physician, provided the same attention is given to administration that is

used with other types of therapy. The knowledge of the physiological effects of exposure to ultraviolet radiation is now sufficiently complete to permit prescription on a rational basis.

SUMMARY

This paper contains a short discussion of the principal sources of ultra-violet radiation. Some of the evidence indicating the physiological effect is considered with reference to the practical application. The principal effects of ultraviolet radiation are illustrated by application in diseased conditions.

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PYELOSCOPY*

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Pyeloscopy or fluoroscopic study of the renal pelvis and ureter after the injection of an opaque medium is not a new procedure. Orndoff of Chicago began twenty-five years ago to carry out this procedure whenever making a roentgenological study of the urinary tract, and in a recent conversation with him I was told he still follows this plan along with the taking of films for permanent records and later study.

The literature on this subject is, however, rather meager, as very little has been written, and only recently has there been a great deal of interest shown in this most interesting and valuable observation of the upper urinary tract.

To Manges[1] credit should be given for having coined the term "Pyeloscopy"[2]; he has routinely examined all patients before pyelography, by pyeloscopy, since 1912.

Pyeloscopy as Manges stated is but a preliminary to pyelography. It adds distinctly to the comfort of the patient, as well as to the safety and the accuracy of the entire procedure. Seventeen years later he says the above statement "is just as apt and fair a statement of reason for advocating the method today as it was then. Pyeloscopy, then, is indicated in every, and not in the exceptional or selected, case." This is the opinion of a roentgenologist who has extensively studied and presented this subject before roentgen ray societies. He does not know of any large urologic clinic in this country in which this procedure is carried out routinely except in the clinic of Doctor Loux at the Jefferson Hospital.

Pelouze,[3] in 1916, drew the following conclusions in regard to pyeloscopy: "This method of diagnosis, suggested by W. T. Manges, and used extensively at Jefferson Medical College Hospital, has such a marked advantage over simple pyelography as to make it invaluable. By this method the technic is the same as simple pyelography except that the work is done upon the fluoroscopic table under excellent visual conditions. Among its many advantages over the older method may be mentioned the following:

"1. It can be seen if the solution is entering the kidney pelvis or merely regurgitating along the side of the catheter; saving disappointment, as well as a waste of costly material.

"2. It is not necessary to wait for the appearance of pain as an indicator of pelvic distention, as it can be distinctly seen when it is occurring.

"3. The position and mobility of the kid-

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ney can be accurately determined by deep breathing and manual manipulation.

"4. Shadows extraneous to the urinary structures can be better determined, as they usually do not move with these organs during manipulation.

"5. The catheter can be safely drawn down into the ureter, so as to distend its lumen with solution, without the danger of pulling it entirely into the bladder.

"6. Plates can be made at any moment during the study to bring out those points that appear most important to the operators.

"7. It can be distinctly seen whether or not the kidney pelvis is being drained of solution when the studies are completed; a point of very great importance."

Jona,[4] in 1928, experimenting with pyeloscopy found that pituitary extract intramuscularly caused rhythmic contractions of the renal pelvis in from 10 to 20 seconds. These experiments suggest further study with other drugs which have not been observed, namely, the belladonna and hyoscyamine group, eserine, adrenalin, morphine and others. In a later communication[5] he gives the results of his studies as follows: "As indicated in a previous publication the musculature of the kidney pelvis can be seen to exhibit regular rhythmic contractions. As far as the author has been able to observe, the wave of contraction commences in the upper calyx followed in succession by the middle and lower calices at intervals of from 1 to 3 seconds. During this period the body of the pelvis (for which the name 'ventricle of the pelvis' was suggested) undergoes steady relaxation. When this part of the pelvis has received the contents of the calices the communication channels between the calices and the 'ventricle' become contracted, the 'ventricle' contracts with a snap-like action resembling the action of the cardiac ventricle, a 'globule' appears at the upper end of the ureter and is passed down the ureter by a peristaltic wave, sometimes so fast as to be barely visible and sometimes so slow that an individual globule can be readily followed in its course down the ureter (when the inlying catheter has been previously removed, of course). Various modifications of this normal functioning have been observed—for example, in one case in which the patient complained of vague backache it was seen that when the 'ventricle' contracted some of the fluid was forced back through the communication channel to the upper calyx which became forcibly dilated and this movement synchronized with the 'throbbing' pain which the patient described. In this patient it was observed that an injection of eserine sulphate (1/100 grain) restored the function to normal and at once relieved the pain. In another case anti-peristaltic waves up the ureter carried the lipiodol up the ureter into the kidney pelvis. An injection of morphine sulphate 'cured' this condition."

Braasch and Carman[6] in 1919 discuss the fluoroscopic examination of the delivered kidney at the time of operation, a search being made for calculi which the surgeon had missed or could not feel, and recommend that this procedure be carried out as routine.

Hager,[7] in 1925, described a head fluoroscope to be worn by the surgeon when operating upon a kidney with calculi, thereby depending on his own vision rather than that of a roentgenologist for the detection of small calculi within the kidney.

Legueu[8] has written a rather lengthy and well illustrated treatise on pyeloscopy which gives us a foundation upon which to make observations and draw conclusions in the future.

To quote from Bailey[9]: "The kidney pelvis, with its subdivisions, the calyces and the ureter constitute the main excretory duct of the kidney. Their walls consist of three coats: an inner mucous, a middle muscular, and an outer fibrous.

The mucosa is lined by epithelium of the transitional type. There are from four to eight layers of cells; the cell outlines are usually well defined, and the surface cells instead of being distinctly squamous are only slightly flattened. Less commonly, large flat plate-like cells, each containing several nuclei, are present. The cells rest upon a basement membrane beneath which is a stroma of delicate fibrous tissue containing fine elastic fibrils and rich in cells. Diffuse lymphatic tissue frequently occurs in the stroma, especially of the pelvis. Occasionally the lymphatic tissue takes the form of small nodules. Mucous glands in small numbers are found in the stroma of the pelvis and upper part of the ureter. There is no distinct submucosa, although the outer part of the stroma is sometimes referred to as such.

The muscularis consists of an inner longitudinal and an outer circular layer. In the lower part of the ureter a discontinuous

outer longitudinal layer is added. The fibrosa consists of loosely arranged connective tissue and contains many large blood vessels. It is not sharply limited externally, but blends with the connective tissue of surrounding structures, and serves to attach the ureter to the latter.

The larger blood vessels run in the fibrous coat. From these, branches pierce the muscular layer, give rise to a capillary network among the muscle cells, and then pass to the mucosa, in the stroma of which they break up into a rich network of capillaries. The veins follow the arteries.

The lymphatics follow the blood vessels, being especially numerous in the stroma of the mucosa.

Nerves: Plexuses of both medullated and non-medullated fibres occur in the walls of the ureter and pelvis. The non-medullated fibres pass mainly to the cells of the muscularis. Medullated fibres enter the mucosa, when they lose their medullary sheaths. Terminals of these fibres have been traced to the lining epithelium."

Bearing in mind these histological and anatomical data, it is much easier to consider the subject of pyeloscopy because by this procedure we actually see the motion and physiological phenomenon of the emptying of the renal pelvis and are brought to realize that the normal renal pelvis and ureter undergo very definite rhythmic contractions and dilatations, whereas many variations are encountered and observed in the abnormal.

The very recent original and valuable contribution of Jarre and Cumming[10] should not be overlooked. Their appreciation of motor function and physiologic action of the renal pelvis and ureter was recorded by a Cinex-Camera using a 5 inch film band for a unilateral study and a 10 to 12 inch film band for a bilateral study.

As stated by Jarre[11]: "The purpose of this presentation is to stimulate interest in those physiologic problems which concern medical roentgenology, with the expectation that we may derive therefrom a better conception of organic and functional normalcy and disease, and thus may improve roentgenologic diagnosis.

"Two groups of phenomena lend themselves to physiologic roentgenologic investigation: (1) those of motion which can be rendered radio-visible, and (2) phenomena of concentration and secretion of opaque substances as they are classically demonstrated by cholecystography.

"Whenever a tubular viscus is rendered radiovisible one should study its function as well as its anatomic structure, since the evaluation of its physiologic behavior must be considered as equally important as—possibly even superior to—anatomic information. The omission of such observation will be regarded as neglect in medical practice of the future." After the patient is placed on the Cinex-Camera table, the technic is as follows: One exposure is made before the injection. Now pyelographic fluid is introduced to a point where a satisfactory filling of the pelvis may be seen in the fluoroscopic mirror; the catheter is withdrawn immediately, and without delay ten or twelve exposures are made, requiring a total of twelve to fifteen seconds. These exposures in their succession record function of the kidney pelvis and ureter and show at least one peristaltic wave passing along the entire ureter. From this point further exposures are made thirty to sixty seconds apart, until the 20 feet of film have been exposed. Thus are secured permanent records of the pyelo-ureteral motor-phenomena, showing the cyclic-peristalsis in every part, possibly with some interference, and, of course, anatomic structure.

Pyeloscopy is derived from pyelography and it has a similar purpose in the study of the excretory function of the upper urinary tract, namely the morphological and pathological variations. With the addition of pyeloscopy to pyelography we merely apply to the exploration of the urinary tract the procedures actually in use in radiologic diagnosis. Take for example the stomach. No one would really consider simple radiography a sufficient and complete examination. Even a series of pictures is not instructive unless accompanied by the protocol of fluoroscopy which has preceded and followed the taking of films, which establishes their connection, showing the mobility of the organ, the location of tender areas, the rhythm of contractions and the manner of emptying of the gastric contents.

It is absolutely the same in the exploration of the kidney pelvis, because, like the stomach, the renal pelvis is a contractile organ endowed with a similar mobility and sphincteric action.

The urine secreted by the renal parenchyma runs through the excretory organs

under the action of a motive function, assured by a neuro-muscular system. This movement is not due to the action of gravity; that has nothing to do with it; the excretion of urine is not a hydraulic phenomenon, it is a peristaltic phenomenon.

If the pelvis and ureter possess a physiological function of motility, however, pyelography from an instantaneous picture can provide us with no information upon it; pyeloscopy on the contrary shows us these organs living, contracting and emptying before our eyes. To the anatomical basis of morphology that pyelography furnishes, pyeloscopy adds the physiological facts of motility, and thus permits further advances in the study of the normal or pathological activities of the kidney pelvis.

One year ago after a suitable X-ray table had been built, pyeloscopy was instituted as a routine in all studies of the higher urinary tract at the Woman's Hospital. The X-ray table is one with a movable Bucky the entire length of the table and with a fluoroscopic screen above the table. The table top is especially constructed so that cystoscopy and ureteral catheterization may be carried out either with or without the use of stirrups.

After the renal pelvis is outlined on the fluoroscopic screen, as many small films as desired may be taken, using the fluoroscopic X-ray tube and placing the films under the fluoroscopic screen in a special holder for this purpose; when this part of the examination is completed the ureteral catheter is removed, the patient placed in the standing position and another film made; after this one may spend as much time as desired in the further study of the renal pelvis and ureter in various positions.

Sodium iodide 12, 20 and 30 per cent are the solutions used for injecting the renal pelvis, the various concentrations being used in individuals varying in thickness and weight.

The tip of the ureteral catheter should be just within the renal pelvis; this, however, is sometimes rather difficult to determine and if the tip of the catheter should be in one of the major calices, this is readily seen upon the injection of a few drops of the iodide and the catheter immediately withdrawn into the pelvis, otherwise the patient will have rather severe pain from the over-distention of this particular calyx.

Renal colic is due to spasm, this observation having been made by Legueu, because of faulty technic in injecting the renal pelvis and causing over-distention; by pyeloscopy he was able to note that renal colic was characterized by a spasm of the uretero-pelvic sphincter, which resulted in retention and over-activity of the pelvic musculature.

Also should the tip of the catheter be below the uretero-pelvic sphincter, the injection of fluid will cause severe pain and spasm of the ureter and pelvis, and many times it will be impossible to get an image of the renal pelvis.

Some time is required for the eyes to become accommodated, thereby providing ample opportunity for the collection of urine from each kidney for cell count, culture, et cetera, also the dye tests, these procedures to be carried out by an assistant. It is only when the intervertebral disks can be distinguished and the catheter seen distinctly that one can consider eye accommodations complete.

The diaphragm is now centered over the tip of the catheter and a half of 1 c.c. of the iodide injected; this amount is usually sufficient to partially or entirely outline the renal pelvis, and the patient has not had discomfort from distention of the renal pelvis; rarely are more than three c.c. of the iodide solution necessary to give one a very good visualization of the pelvis except in those cases of very large renal pelves, and megalo-ureters.

After the ureteral catheter is removed there takes place in the renal pelvis more or less rhythmic contractions which may begin in any one of the major calices, which is followed by an injection of fluid into the pelvis; this in turn may appear to enlarge somewhat and then, as the pelvis contracts, the uretero-pelvic sphincter relaxes and a portion is seen to enter the ureter and begin its descent to the bladder by rhythmic waves.

This process continues until the pelvis is empty of the iodide, and, by seeing this phenomenon, one can readily understand then the variations in pyelographic films made on the same patient.

The emptying time of the renal pelvis has been estimated by various urologists as taking from three to seventeen minutes; however, these conclusions were not the result of pyeloscopic study. Legueu says the normal pelvis will empty at the rate of one c.c. per minute, this conclusion being drawn after

the observation of several hundred pyeloscopies.

With the foregoing as a groundwork, let us consider what is to be learned by this method of examination as compared to pyelography alone.

The first observation is to note the position of the ureteral catheters, whether they are lying along the vertebral column in the normal position, also any loops or turns which should not normally be present, and, most important, the position of the tip of the catheter in relation to the renal pelvis. As before stated, it is most essential that the tip of the catheter be within the renal pelvis if a minimum amount of discomfort is to be caused the patient.

During this time of localization of the ureteral catheters, a careful search can be made for the evidence of calculi within the ureter or renal pelvis; should such shadows be seen the palpating hand on the abdomen will usually confirm the ureteral shadows if the patient is not too thick.

In case there is a calculus present one can almost certainly see it on the fluoroscopic screen and note the relation between it and the first small quantity of the injected solution. By changing the position of the tube with relation to the patient one can determine whether or not the foreign body and the solution are at different levels. When the shadow and media remain in contact it proves that the calculus is in the urinary tract. Also take note of the kidney during the breathing cycle and see that the shadow and opaque solution move together.

After the relative size, position and motor function of the pelvis have been observed, it is well to check up the renal motility. As every normal kidney moves a certain amount with respiration, and this movement can be easily seen, it is well to have the patient take a deep breath and make note of the respiratory excursion to be compared with the degree of motility in the erect posture.

Manges states that "as a matter of fact, on deep inspiration, with the patient in the recumbent posture, the average movable kidney will descend approximately as far as it will with the patient erect and taking a full inspiration." From my observation, I do not agree with this statement, as repeatedly in the course of examination, the respiratory excursion having been noted, there proves to be in the erect posture a far greater degree of motility, this having been recorded by films with the patient in two postures.

While in the erect posture one can very easily replace the kidney by abdominal pressure, and this is a very significant finding, especially if there is little or no emptying of the pelvis in this posture. Many kidneys that are more motile than normal show no delay in emptying while standing, so that the justification for nephropexy must be more than just a motile kidney that shows some angulation or kinks in the ureter in either the prone or vertical position.

Legueu states that he has yet to demonstrate a ureteral stricture, though many times an obstruction is met in the ureter. Under the fluoroscopic screen the kidney is elevated by the hand on the abdomen, with the result that the ureter is straightened out and the catheter readily passed, the kink or obstruction in the ureter being demonstrated by the injection of a few drops of iodide ahead of the catheter.

The rapid distention of the renal pelvis results in one of two conditions: first, the pain which should be spared the patient and a disturbance of motility resulting in exaggerated movements; or, second, complete inhibitions.

Careful note should be made during the course of either pyeloscopy or pyelography of always ascertaining from the patient if any discomfort he may have is of the same character for which he is being examined, or if the pain is more mild but of the same type, and if the pain is of the same type but more severe, or if the discomfort resulting from the renal distention is of a different character altogether.

Most patients will answer these questions very intelligently, and the benefit to the operator is obvious in drawing his ultimate conclusions from the urinary tract study.

Pyeloscopy can be done on both sides at the same examination; however, judgment and discretion must be used, especially if there are any marked abnormal findings on the side first examined.

Tumor masses in the region of the kidney which may or may not be a part of the kidney, are to be palpated, and one can usually tell very definitely whether the mass is attached to or a part of the kidney, even when there is no deformity of the pelvis and calices due to the involvement of the tumor.

There are also those pelves that empty so rapidly because of hyperactivity that it often

is practically impossible to get a good pyelogram, even though only a few seconds' exposure is required, whereas with the diaphragm of the fluoroscope cut down to just the size of the kidney, and a film made with practically an instantaneous exposure, a good pyelogram is obtained.

By the use of the twenty or thirty per cent iodide solution in a large hydro- or pyeonephrosis under fluoroscopic control one need no longer fear the consequences of injecting large quantities of iodide for diagnostic purposes, as 2 or 3 c.c. of the stronger iodide solution will diffuse in the fluid already present sufficient for all purposes and no over-distention occurs.

Those of you who have experienced the making of pyelograms with the patient anesthetized, either under general anesthesia or spinal anesthesia, can readily appreciate the value of pyeloscopy in these circumstances. No longer need we work in the dark and blindly attempt to make diagnostic X-ray studies of the higher urinary tract.

Of the contra-indications of pyeloscopy there are none, the disadvantages, only one, and that is the time required for one to become accommodated, and, as urology has been termed the most exact of all the specialties, it most certainly behooves us to take advantage of the added information thus obtained, thereby making our specialty more exacting than ever.

CONCLUSIONS

Pyeloscopy is a preliminary study to pyelography.

Pyeloscopy is not diagnostic in itself. Pyelographic films should always be made.

The pain and discomfort of the patient are very materially lessened by the pyeloscopic method of pyelography.

With pyeloscopy added to pyelography, the accidents of the past should never occur.

In the past roentgenologists have not made use of pyeloscopy, but have expressed their opinion regarding the higher urinary tract after seeing one or more pyelograms.

In the future the urologist must be his own roentgenologist, provide himself with proper equipment and study every patient in this manner, thereby increasing his knowledge of the renal pelvis and ureter by the addition of pyeloscopy to pyelography.

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411 Professional Bldg.

RADICAL FRONTAL SINUS OPERATIONS*

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It is my privilege, as one of the local doctors, to present some cases at this meeting. I trust it will be of interest to you to see a few cases of frontal sinusitis, on each of whom a somewhat different technic was used in performing the radical operation. I will present as briefly as possible four cases; the first operated seven and one-half, and the last one and one-half years ago.

I wish to preface my remarks on these cases that have come to radical operation by saying that like all of you I only resort to the radical after all conservative measures have failed. Shrinkage of the swollen tissues of the middle meatus, probing and irrigation through the frontal duct when possible, suction, and, most important of all the intranasal procedures, resection of the anterior

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end of the middle turbinate to expose the hiatus, together with removal of all polypoid or hyperplastic tissue in this region, will bring about a cure in the majority of cases, because here is where the obstruction to drainage usually is, rather than higher up in the duct.

The few that do not respond to this treatment and go on to periostitis, necrosis with fistula formation, et cetera, require external radical interference.

Case 1.—A young lady of 18, who, when I first saw her, had a left frontal sinusitis with a subcutaneous abscess pointing in the inner angle of the orbit. This is the most common site of rupture, because here the frontal wall is thinnest.

Conservative measures were tried, but it was obvious that the radical operation was necessary, and on March 12, 1923, a radical Killian operation was done on her left frontal. An area of necrotic bone was found posterior to the trochlea. The entire mucosa was wiped out carefully with gauze. The anterior and orbital walls were removed. A large opening was made into the nose by cutting away the frontal process of the superior maxilla and breaking down the adjacent ethmoid cells. The sinus was packed lightly with a strip of gauze and the end tucked into the nose. A light dressing was applied after suturing the entire external wound.

I had hoped to repack the cavity until healed, gradually from the deeper recesses inward, but considerable difficulty was encountered in removing the original pack, and to repack seemed impossible. But by directing our effort towards keeping as large an opening as possible, by cauterizing exuberant granulations when they appeared, healing resulted without external depression and there has been no recurrence in over seven years.

Case 2.—A man, 50 years old, came to me with a fistula discharging pus over his left upper eyelid, near the external angle. This is one of the rarer locations for rupture to occur.

After a submucous resection of a badly deflected septum and removal of the anterior end of the left middle turbinate, the left frontal duct was enlarged, and free nasal drainage was established, and the fistula closed.

On October 20, 1923, I did an osteoplastic flap operation, using the method Dr. Ferris Smith employs, which is as follows:

First, one of the antero-posterior X-ray plates was used to make a guide for determining the exact limits of his frontal sinus during operation, by cutting out the outline of the frontal sinus shadow together with the outline of the upper half of the orbit. The septa in the sinus were indicated by a series of pinpricks in the film. Then the gelatin was soaked off, and the piece of celluloid film sterilized in an antiseptic solution.

The incision was the same as that used in the Kuhnt operation, paralleling the upper border of the eyebrow and extending vertically upward from the inner end to the upper limit of the sinus, as shown by the celluloid guide. This incision was made down to, but not including, the periosteum. The soft parts were elevated over this area and retracted. Then a small opening was chiseled into the lower mesial angle of the sinus. A probe was passed into this opening and the upper and outer limits of the frontal sinus measured and compared with the limits as shown by the guide. A second and third opening was then chiseled into these two extremities of the sinus. A wire Gigli saw was passed into one of these openings and out of another, and the upper border *sawed through from within outward;* and then the mesial border was severed in the same way. The lower border was weakened by the saw until it fractured easily along the supraorbital border, care being taken to avoid traumatizing this periosteal attachment. The flap was then turned down over the eye and protected by moist sterile gauze.

The entire mucosa was wiped out and the orbital floor of the sinus removed piece by piece with a curette and forceps, exposing the orbital tissue to granulate in and obliterate the sinus. The frontal duct was enlarged as much as possible from above, and the ethmoid cells destroyed to make a good sized opening into the nose.

A large rubber tube was left in the cavity, extending into the nasal passage, through which drainage was maintained for some time (five to eight days).

Healing eventually took place without further trouble, except for the usual care to keep granulations from filling in the duct.

This case left town without paying either his doctor or his hospital bill and such other items as the new suit he was wearing in the photograph; this is why I have not been able to get any follow-up on how he is getting along, but we trust that no news is good news, and that he has had no recurrence.

Case 3.—A young lady 20 years of age gave a history of an injury to the right forehead while at work in a paper mill in October, 1926. On Christmas of that year she caught a severe cold at a dance. During the three weeks before I first saw her she had had influenza, double quinsy, profuse night sweats and a discharging right ear.

When I was called by her family doctor there was an extensive edema of the right frontal area completely closing her right eye, and the right nasal passage was partially obstructed.

She complained of dull frontal headache, severe pain over the right frontal sinus and the discharging right ear.

This patient was the most acutely ill of all these cases, having a high fever and leukocytosis of 13,200 on admittance to the hospital, January 15, 1927. And the X-ray showed both frontals cloudy.

The anterior end of the middle turbinate and anterior ethmoidal cells were removed, and external drainage was established by simple trephination into the right frontal through the inner third of her eyebrow, and a rubber tube sutured in place through which pus drained profusely for three weeks. The organism present was found to be the hemolytic streptococcus IIIa.

February 5, 1927, a Killian operation was performed on her right frontal. Multiple perforations were found in an area the size of a dime in the cranial wall, the perforations all being as small as the head of a beaded pin. There was a large perforation in the inter-sinus partition. With Dr. Ferris Smith's help these defects in the cranial plate were explored and the dura found healthy. The incision was extended to the left and that sinus opened. The anterior wall of each frontal was removed, except for the supraorbital ridge and a vertical strip in the midline the width of a finger. The mucosa was wiped out with gauze and the orbital floor of each sinus completely removed. What remained of the intersinus septum was removed, and drainage established by enlarging the frontal duct from above.

The exposed dura was dressed daily through an open wound until healed, and then the wound was closed by a plastic resection of the scar.

In spite of the complications in this case which I have mentioned, and the fact that the right nasal bone was accidentally destroyed in my zeal in widening the right frontal duct, the final result was fair-

ly good cosmetically, and there has been no recurrence in the three and one-half years since her operation.

The first three cases just described all came under my care at a *late* stage after necrosis of a sinus wall had already taken place. But the last case was seen *early* and has an interesting preoperative history.

Case 4.—In September, 1927, this young man developed a severe rhinitis which was treated by his family doctor, and he was permitted to go away to school.

In March, 1928, I first saw him, and he then had a profuse foul bilateral nasal discharge and considerable obstruction to nasal respiration. Large dry crusts were found in the middle meati and pus coming from these clefts. The bulla ethmoidalis was strikingly bulbous.

The anterior ends of both middle turbinates were removed. Some of the anterior ethmoidal cells were removed and the frontal ducts enlarged sufficiently to admit the probe easily.

He went away to school and I did not see him again until January, 1929. He then complained of dull frontal headache and profuse nasal and postnasal discharge. A small polyp was found coming from his right frontal duct, and both frontals were quite prominent, due to thickening of the subcutaneous tissues and periosteum over the sinuses and an apparent bulging of the anterior and orbital walls of both frontal sinuses.

Although I felt that further conservative measures were not indicated, still there was reasonable doubt, and I asked the patient to see Dr. Ferris Smith and get his opinion at this time. Dr. Smith advised "the bilateral osteoplastic frontal operation with complete removal of the entire floor to permit filling of these sinuses with granulation tissue from the orbital soft parts," complete evisceration of both ethmoids and secondary treatment of the antra intranasally later.

February 25, 1929, Dr. Smith and I performed the bilateral osteoplastic radical frontal operation on this patient, using the following technic:

First, a guide was made from his roentgenograph showing the dimensions of both frontal sinuses, as previously described.

Then an incision was made paralleling the upper border of each eyebrow and dipping down to the level of the cribriform plate at the center. A second incision vertical to this was made in the midline up to the upper border of the sinuses as shown by the guide. These incisions went down to, but did not include, the periosteum. And the soft tissues over these areas were elevated and retracted.

A burr was used to enter each sinus at the three limits, as in the second case described, in which the left frontal only was operated. The mesial and upper borders of each sinus were completely sawed through *from within outward* with the wire saw, as before; and the supraorbital border of each weakened by sawing partially until the bone fractured readily along this line; and each bone flap thus made was turned down over the eye and protected with moist gauze.

The mucosa was found edematous and was removed completely, care being taken to see that no remnants were left in any of the little recesses along the borders of the sinuses. Sharp curettement was avoided, especially along the cranial wall, an instrument covered with gauze being used in preference to a sharp curette.

The orbital floor of each sinus was completely removed, and all ridges were cut away, leaving a large, smooth cavity. The nasofrontal ducts were enlarged by curetting the ethmoidal cells and cutting away some of the nasal process of the superior maxilla and mesial wall of the duct, special care being exercised at all times to avoid injury to the cribriform plate. When a large nasofrontal opening had been made, as large a tube as it would accommodate was inserted into the nasal passage, the upper end of the tube extending up into the frontal sinus.

The bone flaps were then replaced and the external wound closed by interrupted sutures of horsehair.

The postoperative care consisted in keeping the tubes patent and keeping the openings from closing by granulation. There has been no recurrence in the one and one-half years since operation.

When one is confronted with a case requiring the radical frontal operation, one has to consider two opposing ideals: that of the surgical procedures that will insure healing, and the cosmetic result. We, as surgeons, would consider them in this order. But the patient does not.

Inasmuch as the conclusion drawn from this presentation will be that I have favored the osteoplastic flap operation in selected cases with fairly large frontals, I want to say that I am aware of the objections to this method raised by Professor Hajek of Vienna, and others. But he performed this operation in nine cases rather than subject them to the disfigurement that inevitably attends the methods that attempt to obliterate the sinus by pressing the soft parts of the anterior wall back into the cavity.

His published findings in a case previously operated by the osteoplastic method, which came to secondary operation due to recurrence, show this entire upper anterior part of the sinus filled in with healthy tissue, and the only dead space was found at the lower inner angle just above the infundibulum, *i.e.*, just back of the inner root of the supraorbital bony ridge which is left in the Killian operation, and lays this generally accepted method open to the same objection. This danger of a suppurative recess forming at this point can be avoided by making and maintaining a good, large opening into the nasal passage.

Attention to adequate patency of the nasofrontal duct once or twice a year should be considered more important than all these factors.

Why do we consider "the entire obliteration of the cavity, including the infundibulum," imperative when in all the other sinuses that we strip of their mucosa and clean out necrotic areas we make no attempt to obliterate these cavities by pressing the ad-

jacent soft parts into them? If ample drainage and ventilation is maintained, healing is the rule in these cases.

Let us consider this side, however, granted that the end-result desired to insure healing *is* the *total obliteration* of the sinus, including the infundibulum, the Riedel operation, which differs from the better known Killian operation in that all of the anterior and orbital wall is removed, *including the supraorbital ridge,* is the ideal. But Hajek, who is so insistent that we disregard the cosmetic result, which he regards as a step backward in the process of learning from former failures, says, "It is preëminently the disfigurement that prohibits the consideration of the Riedel radical intervention over the usual methods."

If it is then granted that this "ideal" method cannot be used, if for no other reason than that the patient will not permit it, we have then to select the method that will give us the best cosmetic result, and at the same time a good chance of cure. The Riedel operation may be held in reserve for such cases as may recur, or where extensive trauma or necrosis of these plates makes it imperative.

I submit this osteoplastic method as one of the best ways in which very radical treatment of these cavities can be carried out, without subsequent deformity.

FAMOUS MEN IN MEDICAL HISTORY

SILAS WEIR MITCHELL
HIS CONTRIBUTION TO EARLY AMERICAN NEUROLOGY*

LOUIS F. KNOEPP, M.D.

At the time of the organization of the American Medical Association, specialists in medicine were rare, but psychiatry had existed and, with it, strong men representing the field. American psychiatry dates from early in the nineteenth century and was even well founded as long as eighty years ago. The early volumes of the American Journal of Insanity bring forward the sucesses of such men as Ray, Earle, Brigham and Galt, who were in no way inferior to their contemporaries of other countries. It might be added that it was the inspiration of practicality of the American contributions that caused the reform of the treatment of the insane of Scotland, which nation has long lead in psychiatry.

On the other hand, neurology was born of much more recent medicine. One might say that it dates back only sixty-five to seventy years, work done previous to that time being regarded merely as contributory to general medicine. Most of the older specialists were alienists, but America was not long deterred in producing the experimental investigations of Brown-Sequard in 1852 regarding the sympathetic nervous system. The noted papers of Dr. H. F. Campbell and Marshall Hall on nerve pathology should be cited, but these contributions were not regarded with the attention that European neurologists had obtained. It is even doubtful that the early work of Brown-Sequard gave him the publicity that his later European investigations did. The works of Flint and Wood relative to nervous disorders were sometimes quoted abroad, but it was a poor time for Americans to publish facts.

Not until the Civil War did American neurology come definitely to the fore with contributions of such men as Mitchell, Morehouse and Keen relative to gunshot wounds of nerves. Moreover, Dean at this time had just published his work on the anatomy of the medulla and trapezium. The first acceptable American textbook on neurology came from the labors of Dr. W. A. Hammond in 1871, and since that time has run through a number of editions. In addition to Hammond's work were the contributions of such men as R. T. Edes, Beard and Seguin (who at this time was quite young). During this decade the organization of the American Neurological Association is marked. Since its inception in 1874 it has been a stimulus to further originality as well as a landmark for the field.

During the eighties and nineties the progress of the science of neurology was quite

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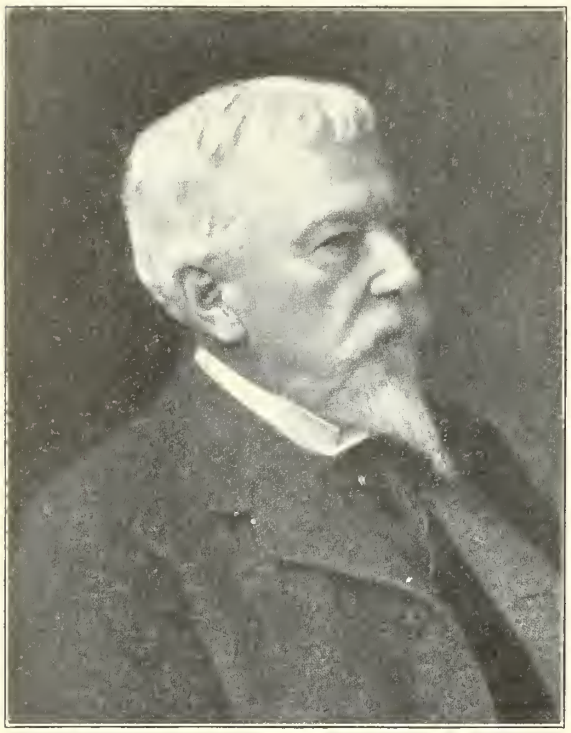
marked. On the finer anatomy of the nervous system we hear of such men as Barker, Spitzka and Langdon, while the development of the physiology is indebted to such as Dana, Mills, Brown, Berkley, Ott, Knapp, Hunn, and Osler. Wilder amassed considerable material on the nomenclature while the advances of neurosurgery came notably from Starr, Deaver, Park, Keen and Askridge. Until the beginning of the twentieth century much had been contributed by American neurologists in such journals as the American Journal of Morphology and the American Journal of Comparative Neurology. Moreover this advance in neurology has given a direct stimulus to its sister science psychiatry in such a manner that they have hereafter ever been allied.



Silas Weir Mitchell

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The death of Silas Weir Mitchell on January 4, 1914, shortly before he had completed his 84th year, marked the passing of one of the foremost striking figures in American medicine. In our nation's early history the name of Rush and in the latter half of the last century the name of Weir Mitchell stand side by side in evaluation of the achievement and position of medicine in this country.

The son of John Kearsley Mitchell, a Philadelphia physician, and Matilda Henry Mitchell, Silas Weir Mitchell was born at Philadelphia on February 15, 1829. He was the third of nine children, he being named for Silas Weir, a prominent Philadelphian and friend of his father. He attended the grammar schools of his city and in his literary work his attainments were not extraordinary. As a student at the University of Pennsylvania in the class of 1848, his record was more brilliant but he had to give up before graduating because of a threatened tuberculosis. Eighteen months of his long life were spent on beds of sickness, but in his latter days his health was excellent, almost exuberant, and he felt himself growing stronger and stronger every year.

Mitchell received his degree at the Jefferson Medical College in 1850 when in his 21st year and soon began his well-known researches in physiology, extending to these such time as he could secure from his work as a practicing physician. As it is well known, his earliest ambition was to make for himself a place as a physiologist. The study of the venom of serpents, of the action of the vegetable poisons and of the special points in the physiology of some of the lower animals, claimed much of his time during the first ten years after graduation. While these investigations were not solely neurological, they contributed facts of value to the anatomy, physiology and toxicology of the nervous system. An interesting discovery which paved the way for others in the same direction was that of a laryngeal chiasm in chelonia similar to optic decussation.

James J. Putnam, a personal friend of Weir Mitchell, recalls the first case of the noted neurologist. "He had just become the assistant to his father, the eminent Dr. John K. Mitchell of Philadelphia, and was left by the latter, who had gone on a vacation, to hold the fort during his absence, with instructions to keep the practice going and the patients alive, if possible, until his father should return. Dr. Weir Mitchell was then the rawest of young doctors, but already conscious of the undying reserve of courage and resourcefulness which remained with him through life. Who should the first patient be with whom he had to deal, during this important interval, but a gentleman with an inveterate psoriasis, who had trav-

eled the world over in the elusive search of health and had come at last, as Naaman came to Elisha, to seek the senior Dr. Mitchell! What should be done? The improbability of a cure simply by repetition of old methods stared the younger Mitchell in the face, and the fashion of that particular period was not favorable to the recommendation of dipping just seven times in the River Jordan. But his courage and inventive genius stood him in good stead. He put the patient to bed, under the care of a trained nurse, and bled him copiously, at first daily, then less often, hoping almost against hope that the disease would submit itself to the treatment before the patient succumbed. Not without grave anxiety he watched the distinguished invalid grow weaker day by day. But at last, when even his hopefulness threatened to give way, the spots began to fade and finally disappeared. Then came the fattening-up, and after this had reached the proper point he sent his patient off, well satisfied with the treatment he had had."

This exhibition of courage and resourcefulness can easily be seen to have played a great rôle in Dr. Mitchell's career, when in 1863 Dr. William Hammond, then Surgeon-General of the United States Army, placed him and Dr. George R. Morehouse in charge of a hospital in Philadelphia for soldiers suffering from injuries of the brain and mental disorders. The scope of this hospital was soon enlarged to include men suffering from injuries of the nerves. Before long it was found necessary to build a new hospital with accommodation for 400 patients; there a vast number of cases representing almost every conceivable type of obscure nervous disease were received. Few persons have ever at any time had such a field for the study of these maladies and Dr. Weir Mitchell and his colleagues made full use of their opportunities. Out of this work during the war proceeded not only the original monograph and separate essays of Weir Mitchell, Morehouse, and Keen, but the later expanded and thoroughly systematized volume of Mitchell's in 1872 on "Injuries to Nerves and their Consequences" and Dr. John K. Mitchell's book reviewing the remote consequences of these nerve injuries from the study of the condition of some forty survivors. Forms of neuritis, trophic disturbances and symptoms like causalgia hitherto undescribed, the physical and psychical phenomena presented by those who had lost limbs through amputation (on which I shall again comment), and various forms and methods of treatment particularly adapted to nerve injury were here, with a wealth of other detail and suggestion, first brought to the attention of the profession.

Throughout a larger part of his long scientific and professional career, Mitchell's mind continued to be fascinated by the question of the action of venoms. He returned with others or alone at intervals, to new studies in this field of research, his mind grasping the fact that in such investigations would be found data that would help to clarify some of the most obscure problems in physiology, pathology, and therapeutics. His latest work in this connection was done with Reichert in the Physiological Laboratory at the University of Pennsylvania, more than a quarter of a century after his first researches.

An amusing character story of Dr. Mitchell contributed by Dr. F. C. Shattuck during this time may be mentioned in conjunction with his increasingly widespread reputation in the field of neurology. Dr. Mitchell was, it seems, just leaving Milan after a temporary visit, when a gentleman came up to him in the hotel, asking if this was the Dr. Weir Mitchell of Philadelphia and saying that he greatly wished to consult him, as he was a serious sufferer from insomnia. Dr. Mitchell declared that the carriage was at the door, and that his departure could not be delayed. But while talking with the would-be patient he noticed a brown stain in one corner of his mouth, and observed the ends of a number of big cigars sticking out of his vest pocket. Taking advantage of these hints he ventured the opinion that his insomnia was due to too much tobacco, adding the guess that he both smoked and chewed heavily. The astonished patient admitted the soft discrediting and wrote to him a month later that his opinion and the treatment based upon it had been productive of excellent results.

In conjunction with his notable enterprise in researches regarding snake poisons which started when he and Dr. William A. Hammond investigated the physiology of two South American poisons—corroval and vao —both of which were said to have serpent venom mixed with them, Dr. Weir Mitchell took great pride in sending to Dr. Oliver Wendell Holmes, who had long been a close friend, the skin of one of his largest rep-

tiles, and received in return some witty acknowledgments, one of which is quoted:

My Dear Dr. Mitchell,—

I am reminded of Pope's line—

"Pleased with a—rattler—tickled, etc."

I don't think I have it quite right, but anyhow I am both pleased and tickled with my rattler's integument. It is magnificent,—not Tofana or Madame de Brinvilliers in all her glory of silks and satins, was clad like one of these. But what a parlous worm it was, to be sure! I didn't know that pizon sarpents ever grew so big as that. He must had shed venom as a milch cow does her amiable secretion. I have got him hung up on my revolver (bookshelves, that is), and he hides a library of volumes. And when he rattled, how he must have waked the slumbering watchmen, if any such were within range! I should greatly enjoy a short biography of this individual specimen of a race which owes so much to your pious labors.

Well, well,—asps and vipers and copperheads, and cobras and rattlesnakes of reasonable dimensions I know, but a crotalus with the length and circumference of a boa-constrictor is a new acquaintance, whose bark, if I may so call his integument, is much more welcome than his bite would be.

Always, and this time thankfully yours,

Oliver Wendell Holmes.

Mitchell's keen interest in the study of peripheral nerve phenomena remained with him throughout his career and led to some of his most important contributions. He was pioneer in the minute study of cutaneous nerve supply, in this respect in not a few particulars forerunning the work of Head and his collaborators and contemporary investigators. In one of his papers published as early as 1873, he showed that our views as to cutaneous sensory supply, founded largely upon anatomical observations, needed to be thoroughly revised. He found to use his own words, that surface anatomy was a fiction. Mitchell showed by his own observations, citing also those of Letievant and others, that section of the median or any other nerve trunk did not completely annihilate sensibility in the distribution of the nerve according to the usually accepted anatomy. He recognized clearly the fact of overlapping nerve areas and the main distinctions between what have ever since been called protopathic and epicritic sensibility, also various erroneous ideas as has since been seen and added by others. to regeneration of nerves and much else that His first work in this direction done as early as 1873 was followed by other papers during ten or more years.

The researches of Mitchell on the physiology of the cerebellum placed him in line as an experimentalist with distinguished contemporaries and predecessors in this field. These investigations, with such time as he could obtain from his duties as a medical practitioner, were continued over a period of six years—from 1863 to 1869. In the resume of his work and conclusions in the American Journal of the Medical Science for April, 1869, he shows in the first place that he was thoroughly familiar with all that had been done from the time of Rolando to the publication of his article—including the work of Flourens, Lussana, Bouillaud, Serres, Wagner, Magendie, Brown-Sequard, Vulpian, Luys, Richardson, Longet, Dalton and others.

His first publication in book form of the rest treatment for neurasthenia which made his name famous was in 1877 under the title of "Fat and Blood." It was translated into five European languages, namely French, German, Italian, Spanish, and Russian. This was preceded by several years by papers leading up to it on the milk diet and on rest of the treatment of special forms of the disease. He has also given to the world in popular form his views in the pamplet on "Wear and Tear."

Sir William Osler recounts the incident relative to his famous work:

"*December 9, 1887.* I have just walked home with the old Weir Mitchell from the Biological Club at William Sellers, and he told me on the way of his discovery; if one may so call it, of the rest treatment.

"'About twelve to fourteen years ago, a Mrs. S. from Bangor, Maine, came to consult me at the advice of a mutual friend. She was a bright intelligent woman who had had, as a girl, attended a Boston school in which Agassiz and his wife were interested, and had passed through the four years' curriculum in three years. She then had married, and within as short a time as was possible, had had four children, with the result of a total breakdown, body and mind. Boston and New York physicians were tried for a year; then she went abroad, and in London and Paris saw the most eminent consultants and spent months at various spas. But in vain; she returned a complete invalid. When seen, she was a woman of 5 feet 8 inches, emaciated, nervous, unable to digest any food unless she lay upon her back with her eyes shut; and full of whims and fancies.'

"Standing at the foot of her bed, Mitchell said that he felt every suggestion that he had to make as to treatment had been forestalled. Every physician had urged her to take exercise, to keep on her feet, and to get about, and she felt herself that this was best. She took food better, but found that in attempting to get up she was so weak she could scarcely stand from lack of exercise. Mitchell said that he felt that he had run up against a stone wall. About this time he had seen on several occasions a quack named Lyons, who professed to cure by passes and rubbings, relieve a confirmed ataxic in such a way that he could get about for an hour or more at a time. The idea occurred to him to substitute for exercise the movements of the muscles caused by friction and rubbing, and, after giving to a Miss H. several lessons, he instructed Mrs. S. for so long

each day. Improvement began to be noticed each day, and to the rubbing was added electrical stimulation of the muscles—also as a substitute for active movement. The food was taken more freely, she gained in flesh, and gradually recovered, and was sent home to Bangor perfectly well. The improvement has persisted, and she has since borne several children and has been the soul of many enterprises in her native town. An incident, post partum, so to speak—was a letter received from Mrs. S.'s mother, a wealthy New England woman full of "isms," and a speaker at temperance meetings, etc. She wrote to Dr. Mitchell to say that bodily comfort and ease, health and enjoyment, might be dearly bought at the price of eternal peace. That he had recommended her daughter to take champagne and to have a maid assist her in her toilette. The former she considered not only superfluous, as any well instructed New England husband was quite capable of helping his wife in her toilette."

With a mind always plastic and responsive, Mitchell, like some great men in pure science, Faraday for example, when engaged in a physiological or clinical investigation with every step taken, saw new radiations on the subject in hand. He contributed to our knowledge of drugs and other remedies as in his observations and investigations on morphine and atropine, his recommendation of amyl nitrite to abort epileptic attacks, his suggestions of lithium bromide as the most valuable of the bromides, his recommendation of the use of splints to procure local rest, and the employment of ice and sprays to reduce pain and relieve local spasm. He was among the first to promote the rational use of massage and faradic electricity, and he made numerous valuable suggestions as to surgical procedures like nerve section and nerve stretching, at a time when such suggestions had the merit of originality. To him is also accredited the elaborate research with Morris Lewis of the physiology of the knee jerk and muscle jerk.

All in all, Weir Mitchell published some one hundred and forty medical articles during his active practise, some of which were: "Hints for the Overworked" (1871); "Injuries of the Nervous System and Their Consequences" (1872); "Disease of the Nervous System" (1881); "Lectures of the Diseases of the Nervous System Especially in Women" (1881); "Lectures of the Nervous Diseases." He has published a number of novels and volumes of poems. He held the belief that a physician in active practise may be what he believes, provided that his medical life and works assure him of his competence.

In conjunction with his colleagues, Weir Mitchell also produced a remarkable paper on malingering, and a book entitled "Gunshot Wounds and Other Injuries to Nerves" (1864). After serving in the Army four years and returning to civil practise, he continued to give his attention to nervous diseases and became the leading authority on the subject in America. He made a number of additional studies on chloroform, chloral and ether. In 1890, he published a paper on the effect of mescal-button, a vision-producing drug used by the Indians of New Mexico, in conjunction with which, he made experiments with the drug on himself to test its power. In this paper he gave a vivid description of the vision-stars, zigzag lines of color of extraordinary brilliancy. On the whole the effect of mescal-button on him was more or less what is experienced in some ophthalmic megrims.

Even the purely medical writings of Doctor Mitchell are possessed with a charm very rare in medical authors. His literary ability found egress in fiction and poetry. His first effort in fiction was entitled "The Case of George Dedlow," a story dealing with physiological and psychological problems, which appeared in the Atlantic Monthly in 1863. He says that he did not write it with any intention of its appearing in print. He lent the manuscript to a friend and forgot all about it. This friend sent it to the Rev. Edward Everett Hale. To his surprise he received a proof and a check, and the article was inserted as a leading number without his name. It was at once accepted by many as the description of an actual case. Money was collected in several places to assist the unfortunate man, and benevolent people went to the "Stump" Hospital in Philadelphia to see the sufferer and offer him aid.

His best novel is "Hugh Wynne, Free Quaker" (1897), a tale of Philadelphia life in the time of the Revolution, which gives the description of a Quaker who upheld his right to bear arms in defense of his country. Dr. Irving W. Vorhees told him that Dr. Henry Van Dyke once told him that he considered "Hugh Wynne" the great American novel.

"Yes," said Mitchell, " 'Hugh' is pretty fair but my best book is 'Constance Trescott.' In that book you will find the best report of a medical consultation in all literature."

Since this novel was written when Dr. Mitchell was seventy-five years old, it is indeed curious that it is even now regarded as his strongest work of fiction. Dr. Vor-

hees reminded him that of all his stories, he considered "The Autobiography of a Quack" the best.

"That interests me," he replied, "for I was more generally criticized for that story and many of them took it as a personal affront. I received scores of letters scolding me soundly for it."

Other works of literature by Doctor Mitchell include: "The Adventures of Francois" (1898); "The Red City" (1909); "Westways" (1914), his last novel. He contributed a book of verse as titled "Collected Poems" (1896) and wrote a drama entitled "The Masque," produced by Wilson Barrett.

Doctor Mitchell never taught in either of the great medical schools in Philadelphia, but he did excellent work for many years as Trustee of the Carnegie Institute, and performed invaluable service in securing the endowment for the splendid edifice of the College of Physicians of Philadelphia of which he was a Fellow and one-time president. This stands now as an important medical center containing a collection of books equalled, it is said, by only the Surgeon-General's library in Washington.

Dr. Weir Mitchell was for many years physician to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, where for more than thirty years his weekly clinic was largely attended.

To Weir Mitchell's achievements may be added the conferring of an honorary L.L.D. degree upon him by the Universities of Edinburgh, Harvard, Princeton, and Toronto. He received an honorary M.D. degree from the University of Bologna. He was an honorary Fellow of the Royal Society, an honorary Member of the British Medical Association, an honorary Fellow of the Royal Medical and Chirurgical Society, and Honorary Foreign Associate of the French Academy of Medicine. He was also a member of the American National Academy of Sciences; an honorary Member of the London Medical Society; a Foreign Associate of the Royal Academy of Medicine at Rome; an Honorary Associate of the Royal Medical Society of Norway; a Corresponding Associate of the Verein für innere Medicin, Berlin; and an honorary Member of the Royal Academy of Bologna. All in all, he was a member of nearly twenty medical societies in America and Europe.

Doctor Mitchell was in every sense a true and learned physician. He revered and respected the science and art of medicine, and strove in every way to extend the boundaries of medical science. Endowed with an affectionate and highly social temperament, a brilliant mind and quick wit, he went on through life continually forming new friendships of the best sorts, as with such men as Phillips Brooks. Some men seem to run into one groove very smoothly, and are driven by destiny, this one to become a poet, this one a scientist. But Weir Mitchell's main idea was never to forsake medicine for literature but to utilize the latter for pastime during his vacationing hours from the tediousness of his practise. He left no well-marked line of human interest untouched, as in his writings can be deciphered as well as from the assurity of those who were acclaimed his intimate friends, a great variety of noble temperaments.

He had certain peculiarities, one of which was his aversion to dinners and anniversaries. Another was his dislike of newspapers and reports. He had little respect for what he called "newspaper English."

"To the reporter," he said, "a dinner is always a banquet, a fire, a conflagration, an investigation, a probe and any unusual welcome an ovation."

Ellis P. Oberholtzer, in his personal memories of Weir Mitchell, speaks of Doctor Mitchell's love on the Franklin Inn Club, where he spent many happy hours during his latter days. It was an absolute rule that affairs at the Club be kept out of the newspapers and the annual dinner was always a closed night. On one of these occasions the doings came to the knowledge of a reporter who published the story in a daily paper, to the great discomfort of all the members, many of whom were prominent literary men.

"Do you wonder that I loathe the creatures?" said Doctor Mitchell.

The reporter wrote a note of explanation saying that the whole world was his prey and that what he always wanted he got, regardless of the feelings of others.

"The ethics of a rag picker!" exclaimed Doctor Mitchell.

But of course, Doctor Mitchell being very human, could not be inattentive to what the newspapers said of him. He read their reviews of his books, although he paid little attention to criticisms unless they were un-

fair, then he would write complaining of the treatment.

But if Doctor Mitchell was distinguished for his talents, his industry, and his achievements, it is equally true of him that he was a warm-hearted lover of mankind both in a narrower and broader sense. To all who cared for them he was generous of the time, his interest, and his affection, recalling in this respect, his close friend Sir William Osler. His influence on the younger men of the profession has been a marked characteristic. Many a medical student had found in him a sympathetic and helpful friend. Doctor Mitchell constantly suggested to younger men new fields of labor and instinctively knew the lines upon which investigation may have profitably been pursued.

Sir William Osler writes in 1914:

"For nearly thirty years I have enjoyed the friendship of Weir Mitchell, so that it is difficult to write in measured terms about his character and work. I met him first in 1884. He had been commissioned by the trustees of the University of Pennsylvania to look me over as a possible successor of William Pepper in the Chair of Clinical Medicine at the University of Pennsylvania. At Leipzig at the time, I had a cable to meet him at Limmer's Hotel, Conduit Street, at dinner, giving the date. He told me subsequently that the next morning he had cabled "All right. Elect Osler!" In a measure he regarded himself as responsible for me, and during five years residence in Philadelphia, had I been his son, he could not have done me more, in every possible way, to promote my welfare. We have been constant correspondents, and his Christmas letter, dated December 20, 1913, was full of cheery greetings. The 15th of next February would have been his eighty-fifth birthday. When I saw him last May he had begun to show his age, but mentally was as keen and alert as ever. Of no man I have known are Walter Savage Landor's words more true—"I have warmed both hands at the fire of life." We have tc go to other centuries to find a parallel to his career, not, it is true in professional work—for others have done more—but in combination of a life devoted to the best interests of science with literary and social distinction. He reminds me of Mead who filled so large a place in public and professional life in the early part of the eighteenth century. And of Mitchell, Dr. Johnson's remark of Mead is equally true—"No man ever lived more in the sunshine of life." But a much closer parallel is with the great seventeenth century Tuscan, Francesco Redi, in the triple combination already referred to, of devotion to scientific study and to belles lettres and in the position which he enjoyed in public esteem. . . .

"I was associated with Doctor Mitchell at the Orthopedic Hospital and Infirmary for Nervous Diseases for five years, and had ample opportunity to see his method and work. Until his son, Dr. J. K. Mitchell, returned from Europe I saw much of his private practise. Three factors contributed to his extraordinary success: a strong personality, his nurses, and the method itself. He was fortunate always to have good assistants, who helped him bear the heavy burden of the routine of practise.

"He had untiring interest in physiological problems and among writers and workers, Harvey was his ideal. I have rarely met with a man with so much mental leaven. He was always suggesting problems for investigation and discussion, and he retained to the end the keenest interest in the progress of science. Twice he missed important chairs of physiology for which he was candidate, but perhaps it was an advantage that he was never hampered by academic harness. The history and traditions of the College of Physicians of Philadelphia, one of the oldest English-speaking medical societies, always appealed to him, and its present magnificent building and strong financial position are largely owing to his devotion to its service.

"Versatility was the striking feature of Weir Mitchell's mind, and it is shown by the remarkable success obtained in other than professional fields. In a large part he was able to do this by living a double life and by development of an extraordinary capacity for continuous work. Giving up practise early in June, he had a month in Canada salmon fishing, and then until the middle of October at Bar Harbour, Maine, he spent the morning in literary work, the afternoon in exercise, chiefly walking, and the evening in social intercourse with his friends. We have not another instance of so distinguished literary success in a man who at the same time was all his life actively engaged in professional work. Oliver Wendell Holmes, though he taught anatomy for forty years, was first and foremost a literary man. . . .

"In presenting a portrait of Doctor Mitchell to the College of Physicians, Philadelphia, on behalf of his friends, I said that Matthew Arnold's well known words fitly described him as one—

Whose even balanced soul
Business could not make dull, nor passion wild;
Who saw life steadily and saw it whole."

There is not a doubt that Doctor Mitchell's name will be remembered as among the foremost of American physicians, and as taking a high place among literary men. The testimony of his innumerable and grateful patients and of the vast circle of his professional friends, the long list of his medical and scientific publications, the still longer list of his literary works, and the many honorable tokens of appreciation bestowed upon him by American and foreign societies, establish this statement beyond question. He felt also the obligations entailed by his position, that he kept his torches burning till the very last, so much in fact that the issue of Science, published on December 12, 1913, only three weeks before his death, contained a memoir by him to his friend, the late Dr. John Shaw Billings. For his never-ending efforts and accomplishments and this emancipating example and influence the profession owes him a grateful tribute.

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner,
LANSING, MICHIGAN

POLIOMYELITIS

In the last issue of the Journal, mention was made of the organization of the Michigan Commission on Infantile Paralysis and its proposed work. The response on the part of everyone concerned was so prompt and so whole-hearted that the rapidity of getting under way and the results obtained have been very satisfactory.

Both people and physicians, during the increased prevalence of poliomyelitis, became "polio-minded." One result of this was that many parents and some physicians considered cases of illness to be poliomyelitis in which the symptoms were not very suggestive. On the other hand the discovery and diagnosing of a greater percentage of actual cases resulted. Many cases that would have been overlooked by parents or physicians were found because everyone was thinking of poliomyelitis. The parents in most communities showed less unreasonable fear than is usual at such times, due, we believe, to the knowledge that efforts were being made to combat the disease.

The response by those who formerly had had poliomyelitis was overwhelming. A total of 450 donors gave their blood, and the list could easily have been increased to three times that number; also, most of those would have been glad to give blood on repeated occasions. The compensation of ten dollars for each bleeding no doubt stimulated this response but the spirit of service was evident and real among the donors. The only time that serum for treatment was not easily available was during the first two weeks, while the organization was being perfected and the serum prepared. Due to the cost of collection and preparation and the limitation of funds, it was necessary, however, to continue restriction of administration of serum to those cases where the criteria of the Commission were met.

The regional consultants and their assistants did a most splendid piece of work. Their service was prompt and unselfish. Their observations agree that the serum has been very effective. This could be so only with the prompt action of all concerned: parents, attending physicians, and consultants.

Results in treated cases will be tabulated and reported on at a later date. Likewise, there will be some analysis made of the epidemiological data collected.

C. D. B.

SUPERVISION OF PUBLIC HEALTH LABORATORIES

All public laboratories making chemical, serological and bacteriological laboratory tests to aid in the diagnosis or control of communicable disease shall be registered with the Michigan Department of Health, by provision of House Enrolled Act No. 45 of the Public Acts of 1931. Application for registration shall be made by the person, firm or corporation in charge of the laboratory, and shall be valid for one year. A public laboratory shall be deemed to be a laboratory which may be patronized by any physician or health officer.

The law further provides that it shall be the duty of the state commissioner of health, with the approval of the advisory council of health, to make and declare proper rules and regulations with reference to the operation of such laboratories, to the end that the public health shall be safeguarded by preventing the spread of disease and the existence of sources of contamination. Any person, firm or corporation in charge of such laboratory, aggrieved by any interpretation by the state commissioner of health of such rules and regulations, may appeal to the advisory council of health at any of its regular quarterly meetings and will be accorded a full and complete hearing. The findings of fact by the advisory council of health shall be deemed final, but any interpretation of the law may be reviewed in the supreme court.

Any such public laboratory making chemical or serological or bacteriological laboratory tests shall be under the supervision of a laboratorian who is a graduate of a college or university, of recognized standing, in chemistry, serology or bacteriology, respectively.

The state commissioner of health is em-

powered to inspect such laboratories in order to secure the enforcement of the provisions of the law, and to investigate all complaints received by him in writing as to the operation of such laboratories.

In compliance with the provisions of the law, the Michigan Department of Health has issued the following regulations.

RULES AND REGULATIONS FOR THE OPERATION OF PUBLIC HEALTH LABORATORIES

1. The supervisor of a public laboratory shall be actually engaged in the laboratory work, not a nominal head. He shall file his qualifications when applying for registration under the law.

2. The laboratory shall be equipped with a microscope with a combination of lenses that will give a magnification of at least 300 diameters dry and at least 700 diameters with the oil immersion lens. The microscope must be equipped with an Abbe condenser and adequate lighting facilities.

3. An incubator shall be maintained that is equipped with an automatic thermo-regulator which will maintain the incubator at constant temperature with less than two degrees of variation in temperature during twenty-four hours and less than two degrees variation between top and bottom of the incubator. It must be equipped with a thermometer that can be read at any time without opening the incubator. Recording thermometers preferred.

4. Either an Arnold sterilizer or an efficient autoclave shall be provided.

5. The isolation of typhoid bacilli from material sent to the laboratory may be accomplished by the use of any of the differenital media. The identification shall be made by Russell's double or triple sugar and agglutination of the organism made with diagnostic sera furnished by the Michigan Department of Health. The supervisor shall be prepared to demonstrate that the laboratory culture media will grow and differentiate the organism whenever requested by the Michigan Department of Health.

6. The isolation of diphtheria bacilli from material sent to the laboratory shall be done on Loeffler's blood serum media prepared from serum or from Difco's dried media. Reports on the direct examination of material for diphtheria bacilli shall be made provisionally and followed by the report on the culture. The supervisor shall be prepared to demonstrate the growth of the Klebs-Loeffler bacilli on his culture media whenever requested by the Michigan Department of Health. Loeffler's alkaline methylene blue shall be the standard stain for Klebs-Loeffler bacilli.

7. All preparations for examination for gonococci shall be stained by Gram's method and reports made as "Gram positive or negative diplococci found or not found," either "intracellular or extracellular" as observed by the operator. The supervisor shall be prepared to demonstrate a balanced Gram stain whenever requested by the Michigan Department of Health.

8. Material sent to the laboratory for examination for tubercle bacilli may be stained by either the Ziehl-Neelson method or Cooper's method. The supervisor shall be prepared to demonstrate the dependability of the stain whenever requested by the Michigan Department of Health.

9. Laboratories doing serum diagnosis of syphilis shall submit sera to the Michigan Department of Health and run tests by their method on sera submitted by the Michigan Department of Health whenever requested by the department. The results of these comparative tests shall be in agreement, at least ninety-five per cent of the time, with comparative tests of the other laboratories in the state.

10. Records of the laboratory shall be kept in such a manner that at the end of the year they may be reported to the Michigan Department of Health as indicated on the enclosed blank. In this way comparative results of laboratories in the state may be circulated.

IMPROVING STATE WATER SUPPLIES

Special effort is being made by the Bureau of Engineering to eliminate the few remaining unsafe public water supplies in the state. Thirty of the 342 public water supplies in Michigan have failed to come up to the standards required for approval by the Michigan Department of Health. Within the past three months six municipalities have been persuaded by the Department to improve their water supplies—Elk Rapids, Thompsonville, Kalkaska, North Park and Mackinac Island, which are now chlorinating their water, and Manton, which has put in wells.

Fifteen of the remaining municipalities

with unsafe supplies have been ordered by the Department to either improve their present supply or provide a new one. An order is issued only as a last resort, after every effort at persuasion has failed to stimulate local action.

Municipalities constructing water or sewerage systems are now required by law to secure approval of plans and a permit from the Michigan Department of Health before beginning construction, according to action of the 1931 Legislature. Issuance and sale of bonds for such a purpose is contingent upon approval of the Department, and any expenditure of funds for such purposes is unlawful unless such approval has been secured.

Formerly, the law required approval within sixty days after completion of a waterworks or sewerage system. This frequently necessitated expensive alterations, a procedure that will be eliminated by the new law.

STAFF ACTIVITIES—BUREAU OF CHILD HYGIENE AND PUBLIC HEALTH NURSING

A six weeks' series of women's classes in child care was begun in Midland County on September 28 by Dr. Ida M. Alexander. Helen Linn, nutritionist, will work with Dr. Alexander for a part of the time, presenting nutrition from the standpoint of the prospective mother, the infant, and the growing child.

Isabella County is having a similar series of classes for women, conducted by Dr. Muriel Case. Dr. Case's lectures on physiology and hygiene will be supplemented by talks on social hygiene by Melita Hutzel of the Bureau of Education staff and by talks on nutrition by Helen Linn.

Child Care Classes are being carried on in Chippewa County by Julia Clock, R.N. The series consists of eight talks and demonstrations on child care to girls from ten to sixteen years of age. Sanilac County is having the same series of classes, conducted by Beatrice Ferriby, R.N., and the rural schools of Allegan County a similar series, conducted by Bertha Cooper, R.N.

Preliminary arrangements for immunization and vaccination campaigns in the Upper Peninsula are being made by Annette Fox, R.N., supervising nurse for that district. Where there are county nurses, Miss Fox will assist in the organization of the work and where there are no county nurses she will not only organize but also assist the local doctors in giving the treatments.

Esther Nash, R.N., is in Saginaw County helping the County Health Department in planning a diphtheria prevention campaign.

During the intensive campaign to collect blood for poliomyelitis serum, staff members of the Bureau of Child Hygiene and Public Health Nursing were withdrawn from their regular work and assigned to organizing and assisting in the bleeding clinics. Esther Nash, Annette Fox, Bertha Cooper, Beatrice Ferriby, Nell Lemmer and Julia Clock, nurses on the Bureau staff, organized clinics for the Department doctors. Dr. Case, assisted by Helen Linn, conducted clinics in Newaygo, St. Johns, Ionia and Reed City.

NEW TRAINING CLASS STARTS JANUARY FIRST

The training station for health officers which has been conducted for three years under the auspices of the Michigan Department of Health and the Rockefeller Foundation and under the direction of Dr. W. A. McIntosh, has been continued since July first along slightly modified lines under the direction of Dr. C. D. Barrett. The present plan provides for two physicians in each class, the course to last from four to six months, depending on the trainee and the positions available.

The next class will begin the first of January, 1932. Trainees receive a stipend of five dollars a day. Only graduates of Class A medical schools and under 45 years of age are accepted. Those selected must have proven ability and good personality. The course is intended to prepare physicians for positions as full time health officers in Michigan. The Michigan Department of Health cannot guarantee positions to those who complete the course but will recommend any who do so with a good record.

Inquiries should be directed to Dr. C. D. Barrett, Michigan Department of Health, Lansing.

THE JOURNAL

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NOVEMBER, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

THE 111TH ANNUAL MEETING

The one hundred and eleventh annual meeting of the Michigan State Medical Society was a success despite counter attractions. The annual meeting of the American Legion was the largest gathering of men and women that ever assembled in Detroit. The two conventions coming the same week undoubtedly kept many of our members away from the medical society, especially those in Detroit, who might otherwise have attended. However, those who attended found they were well repaid. The program was good. The addresses were all well prepared and may be accepted as embodying to a high degree recent advances that have been made in medicine and surgery and allied specialties.

There is a growing tendency among the essayists to illustrate their addresses by means of lantern slides. This has been encouraged through the purchase by the Society of five new lanterns of the most advanced type. It was unfortunate, however, that the rooms in which the various section meetings were held could not have been darkened so that the lanterns might have been used more effectively. The places of meeting were well grouped so that there was very little walking necessary to attend the various sections.

It was decided to dispense with the report of discussions. From the experience of the past three or four years this is a movement in the right direction. There has been such a demand for space in this Journal for original contributions that publication of papers in some instances was unfortunately delayed. It is hoped that by the elimination of discussions the papers read at the convention may be printed before the expiration of the year following the annual meeting.

The proceedings of the house of delegates appear in this number of the Journal. They have been reported verbatim so we will not attempt to summarize them here.

There was a tendency in some instances for the essayists to follow their manuscript too closely and to speak or to read so as to be scarcely heard by those at the rear of the hall. This unfortunate habit is too prevalent among men not accustomed to public speaking. A great deal of gray matter is exercised in the preparation of a paper or address. It is unfortunate when the effort is lost by a delivery that is inaudible and therefore unconvincing. Future speakers will do well to practice reading their papers aloud, better if this can be done before two or three critical friends.

It is hoped that all took time to study the scientific exhibits. These were all well worth while. The technic of preparation was in all cases excellent. The legends beneath the various subjects told the story. There is a great advantage in a small, well chosen exhibit. It affords intensive study rather than a tendency to discursive survey of a large collection. Pathology is still basic to medicine and surgery so that an exhibit of pathologic specimens is almost a necessity to a state medical convention.

Next to actual tissue is the radiograph. The reduced reproductions of radiographs described pictorially such pathological conditions as could be registered in variation in density. The commercial exhibit is also an important feature of conventions. While as a rule conducted by the distributing or sales branches of manufacturing concerns, one may keep abreast of the production of new instruments or apparatus, or it may be drugs and other medicinal agents. The same advice to view the commercial exhibits will apply to a perusal of the advertising pages of this Journal. The advertiser in this Journal has something of merit to offer. Were it not so, he would not be an advertiser. He buys space and therefore aids in making this Journal possible.

Before another twelve months have elapsed we hope to publish the papers presented at the annual meeting. They will provide a veritable post-graduate course for the reader. These papers possess a certain advantage over the textbook on the subject dealt with. They are more complete; they are in the nature of monographs containing the writer's experience enriched by his digest of the special literature. We hope to present them in attractive form in good sized readable type to a larger audience than can possibly assemble at any one time. The editor has sought to index each volume of this Journal for reading and convenient reference. Would it not be a good idea to preserve these Journals in permanent form by enlisting the services of a bookbinder when each volume is complete?

DR. J. MILTON ROBB, PRESIDENT-ELECT

In the election by the House of Delegates of Dr. J. M. Robb to the position of president-elect of the Michigan State Medical Society, we have the youngest man who will have occupied the position of president. The House of Delegates is to be commended upon the selection of a man of energy and experience, for Dr. Robb comes fresh from filling the position of president of Wayne County Medical Society, which, as is well known, is the largest county society in the State. He puts himself wholly into any task he undertakes.

Dr. Robb graduated from the Detroit College of Medicine in the class of 1908. Following his graduation and his interneship at Harper Hospital he spent three years with Dr. Don M. Campbell, where he pursued eye, ear, nose and throat work. Since

Dr. J. Milton Robb

1914 he has spent the time in private practice excepting two terms at Edinburgh and Vienna, where he pursued graduate work. He obtained the degree of F.R.C.S. from Edinburgh. Dr. Robb will make an excellent president when the time comes for him to assume the position of chief executive of the Michigan State Medical Society.

DO NOT LET YOUR MEMBERSHIP LAPSE

Recently one of the physicians of this state was sued for malpractice in a circuit court and a judgment of $1,500 was given the plaintiff. The doctor was in attendance on a patient who is said to have demanded and to have hired a nurse. The nurse placed a hot water bottle against the patient with the result that the patient was burned. Suit was brought against the doctor with the result mentioned. Evidently the doctor is responsible for any error or injury committed by a nurse receiving instructions from him even though he may have had nothing to do with employing the nurse.

A doctor may be in attendance on an indigent case in a hospital where he is giving his services without expectation of remuneration. In the event of an unfavorable result the doctor is liable to be sued. The

hospital cannot be sued because it is a charitable institution.

A doctor may be employed in an industrial plant. He may be hired in the same sense as any other employee or official, but if he attends another employee in which the result of his ministrations is unsatisfactory, the patient may bring suit against the doctor but not against the company. If a person should sustain an injury from an automobile driven by an employee of a company while on duty the company may be sued, not the employee.

The moral: *The wise physician will keep himself protected as long as he is in the active practice of his profession by maintaining his membership in his county and state societies, never allowing the same to lapse for non-payment of dues.* In addition to this he should carry a policy with some reputable insurance company.

THE GOVERNOR'S ADDRESS

The address delivered by the Honorable Wilbur M. Brucker, Governor of the State, before the annual general meeting of the Michigan State Medical Society, September 23, was a masterful interpretation of the functions of the government. Attention is called to the verbatim report which appears in this number of the Journal. In spite of the fact that the governor had been engaged in the functions incident to acting as state host to the American Legion, his voice was good. The stress of the occasion which which would have told on a man of less physical robustness scarcely affected the speaker. The address, which lasted nearly an hour, recounted among other things the demands made of the chief executive of the state. It was a logical, common-sense presentation. The audience, besides members of the Michigan State Medical Society, consisted of a large number of the citizens of Pontiac.

A GRIEVANCE COMMITTEE*

This is a very interesting and apparently serviceable institution under the control of the state department of education of New York State. It has been in existence for four years, established under the Practice of Medicine Act. Originally designed to provide a legally constituted body to protect the public by disciplining members of the medical profession who might be found guilty of improper practice, it has rendered a service to the profession by protecting its members against unfounded charges, and it has also raised the standards of professional practice.

Dr. Rypins, the Executive Secretary, gives details of the functioning of the committee. Of 163 complaints against licensed physicians of the State, 65 were found not to come within the legal scope of the committee. He states that the sixty-five complaints have been dropped, inasmuch as they had not been brought before any other tribunal of the State. Citizens have a right to make complaint against a physician before a legally constituted professional committee so that he may know whether he has proper grounds for such action. The effect has been to forestall a number of malpractice suits. The committee has served as a safety valve for disgruntled patients and has saved many members of the profession unpleasant notoriety, besides the expense of defending unwarranted malpractice suits.

The writer relates that the best work of the Grievance Committee has been accomplished in informal hearings before a subcommittee of three members of the profession to whom the complainant and the physician defendant is each permitted to tell his side of the story without the formality of a trial. It has been a significant fact that without the usual legal summons no physician or lawyer has hesitated to appear at these informal hearings.

In a minority of cases (approximately thirty) there was evidence that the physician had either acted improperly, or had "practised too close to the borders of unethical conduct." In such cases the defendant physician was admonished to improve his professional conduct. It has been gratifying that with very few exceptions it has not been necessary to recall physicians, so admonished, on subsequent charges. Of the total number of complaints only seventeen had been referred to the Board of Regents, who sustained the recommendations of the subcommittee. Result, the licenses of eight physicians were revoked for serious infractions of the law.

The Grievance Committee is empowered to arbitrate disputes between physicians, as well as between physicians and patients.

*The Grievance Committee, by Harold Rypins, M.D., Executive Secretary, State Department of Education, Albany, New York. *New York State Journal of Medicine*, Aug. 1, 1931.

This is presented to show our members how the medical profession of the great State of New York handles problems that confront the profession in every State of the Union. In the majority of States complaints and matters involving medical ethics are dealt with by the Ethical Committee of the County Medical Society, The State Board of Registration in Medicine and by the courts.

MEDICINE AND ITS CO-DEPENDENTS

This was the subject of an address delivered by Dr. Angus McLean of Detroit, before the Middlesex Medical Association of London, Ontario. Dr. McLean's address was delivered in a country, one of the western provinces of which has adopted a form of state medicine. State medicine or socialized medicine prevails in England at the present time. The doctor emphasized the feature of cost. It is asserted that approximately two million persons live off the sick in the United States. These include doctors, nurses, orderlies, social workers, laboratory workers and other persons connected with hospitals. It is estimated that this item alone would run to ten million dollars a day with an average daily wage of five dollars. The aggregate annual expense to be paid by the taxpayers would be in excess of three billion dollars. This does not include the cost of drugs or of surgical supplies. The item of cost alone is sufficient if brought before the public in the proper light to dispose them to consider very carefully what the adoption of state medicine might mean.

Dr. Woods, secretary of the Middlesex Association, commenting on the address, said: "I have felt for years that no government has an invisible gold mine at its command, that its only source of revenue comes from its taxation powers, and there are limits beyond which taxation cannot go. Thus it follows that no government can afford to take on the various forms of socialistic and paternalistic services which the present day demands, state medicine among them. If medical service is simplified, the average individual will be able to secure and pay for a service which will be satisfactory to all but neurasthenics."

THE ASCHHEIM-ZONDEK METHOD FOR THE EARLY DIAGNOSIS OF PREGNANCY

The Aschheim-Zondek test for the diagnosis of very early pregnancy is claimed to be about 98 per cent accurate. It depends upon the fact that soon after conception occurs there is an excretion of the hormone of the anterior portion of the pituitary gland into the urine. If this urine be injected into immature white mice ovulation takes place. To obtain fairly accurate results, however, it is necessary to follow details of the test very carefully. For instance the white mice must be immature, that is they must be under twenty-four days old, for they are of no use and results will be misleading if they have attained maturity. Five mice must be used for each test and each mouse must be injected six times over a period of three days. The more complicated a test is the greater possibility of error and the less likely is the test to be employed.

A number of workers have discarded the use of mice in the Aschheim-Zondek test and have adopted the use of rabbits. The use of rabbits in this test has a decided advantage over the use of mice. Those physicians who attended the exhibit given at the 111th annual meeting of the Michigan State Medical Society at Pontiac, will recall a very interesting demonstration of the Aschheim-Zondek test for early pregnancy given by Dr. O. S. Brines of Detroit. Dr. Brines used an adult rabbit which was given a single injection of 10 c.c. of urine, preferably that voided first in the morning. Dr. Brines emphasized the fact that the urine should be distinctly acid in reaction even if it were necessary to resort to medication to produce an acid urine. As said, the rabbit is given a single injection and a biopsy or an autopsy, as you will, is made at an interval of twenty-four hours. Some perform a biopsy and close the operative wound up afterwards; others kill the rabbit and lay bare the ovaries. The process of ovulation produces corpora hemorrhagica. Once these little hemorrhagic bodies are seen they are easily recognized again. They constitute positive evidence of pregnancy as shown by this test.

The technic is not difficult, not essentially a procedure for a specialist. The test is one that may be made by any man in general

practice. It is presumed to be, as we have stated, approximately 98 per cent accurate. It should be remembered, therefore, that there is a margin of uncertainty of 2 per cent. The advantages of a fairly accurate method of making a diagnosis of early pregnancy are obvious, as it is equally important under certain conditions to be sure that pregnancy is not present. The method should be useful in determining an early ectopic pregnancy.

THE IRON LAW OF WAGES

In times like these we feel that we need offer no apology for the inclusion of such topics as this in the Editorial Department of this Journal. The way to counteract or to retard socialistic tendencies is not to ignore them but to study them. Useful lessons may be learned from the history of socialism as worked out upon the stage of European history. Among the German writers on socialism, in importance overshadowed only by Karl Marx, was Ferdinand Lassalle, who died in 1865. Lassalle was a son of a wealthy Breslau merchant, who persuaded him to enter upon a business career. Young Lassalle, however, refused to enter business but insisted upon going to college. He eventually distinguished himself in studies in philosophy at the University of Berlin. His subsequent career was spent as a socialist leader. At this time (1931) Lassalle's view on the social-economic position of the wage earner takes on renewed interest. His Iron Law of Wages runs as follows:

"The Iron Economic Law, which, in existing circumstances, under the law of supply and demand for labour, determines the wage, is this: that the average wage always remains reduced to the necessary provision which, according to the customary standard of living, is required for subsistence and for propagation. . . . . It cannot permanently rise above this average level, because in consequence of the easier and better condition of the workers there would be an increase of marriages and births among them, an increase of the working population and thereby of the supply of labour, which would bring the wage down to its previous level or even below it. On the other hand, the wage cannot permanently fall below this necessary subsistence, because then occur emigration, abstinence from marriage, and, lastly, a diminution of the number of workmen caused by their misery, which lessens the supply of labour, and therefore once more raises the wage to its previous rate."

This is expressed very neatly and is easily verified by any one who will reflect on the conditions around him whether his lot be cast in the country or in the city. For the past two decades or more there has been a marked urbanization of the population of the country due to immigration, to high wages offered in cities and the birth rate has had an upward trend. The past two years have withnessed a tendency to decentralization of population as evidenced in the slowing up of imigration and the trek from the city back to the farm. Man is an animal and subject to the biological laws that govern all animal life. His reason and consequent power to adjust himself to his environment tend to counteract biologic laws to a large extent but in the end the law of his being triumphs.

INFANTILE PARALYSIS

We are indebted to Dr. John T. Hodgen of Grand Rapids for the following extract from Lockhart's Life of Sir Walter Scott. Dr. Hodgen read it in the course of a discussion of the subject of Infantile Paralysis at the 111th Annual Meeting of the Michigan State Medical Society. In view of the present epidemic the reference to Sir Walter Scott is of more than usual interest.

The history of this disease is not new, as in Lockhart's Life of Sir Walter Scott we find the following, written by Scott: "I showed every sign of health and strength until I was about eighteen months old. One night, I have been often told, I showed a great reluctance to be caught and put to bed, and, after being chased about the room, was apprehended, and was consigned to my dormitory with some difficulty. It was the last time I was to show such personal agility. In the morning I was discovered to be affected with a fever which often accompanies the cutting of large teeth. It held me three days. On the fourth, when they went to bathe me as usual, they discovered that I had lost the power of my right leg. My grandfather, an excellent anatomist as well as physician, the late worthy Alexander Wood, and many others of the most respectable of the faculty, were consulted. There appeared to be no dislocation or sprain; blisters and other topical remedies were applied in vain. When the efforts of regular physicians had been exhausted without the slightest success, my anxious parents, during the course of many years, eagerly grasped at every prospective cure which was held out by the promise of empirics, or of ancient ladies or gentlemen who conceived themselves entitled to recommend various remedies, some of which were of a nature sufficiently singular. But the advice of my grandfather, Doctor Rutherford, that I should be sent to reside in the country, to give the change of natural exertion, excited by free air and liberty, was first resorted to; and before I have the recollection of the slightest event, I was, agreeably to the friendly counsel, an inmate in the farmhouse of Sandy-Knowe. Among the odd remedies recurred to, to aid my lameness, some one had recommended that so often as a sheep was killed for the use of the family, I should be stripped, and swathed up in the skin, warm as it was flayed from the carcass of the animal. In this Tartarlike habiliment I well remem-

ber lying upon the floor of the little parlor in the farmhouse, while my grandfather, a venerable old man with white hair, used every excitement to make me crawl. I also distinctly remember the late Sir George MacDougal of Makerstoun. I still recollect him in his old-fashioned military habit with a small cocked hat, an embroidered scarlet waistcoat, with milk-white locks, tied in military fashion, kneeling on the ground before me and dragging his watch along the carpet to induce me to follow it."

EDITORIAL NOTES

The doctor is no business man. How often have we heard it as an expression of reproach. After what has taken place in the world of business in the past two years we will henceforth accept the insinuation as a compliment.

Mr. George Davis, the author of one of Harper's best sellers, "The Open Door," is a son of Dr. R. A. Davis and a cousin of Dr. James E. Davis of Detroit. The relatives as well as the young author are to be congratulated. This book failed by only one vote of the judging committee of winning first place for a prize of ten thousand dollars. Mr. Davis lives in Paris, where the novel was written.

Medicine has been considered as being built up from contributions of the so-called ancillary sciences, physics, chemistry and biology. The opposite view is more nearly correct. Medicine is the original science and the others named are daughter sciences. It is the mother of all other branches of natural science. Medicine is the oldest inasmuch as the first concern of man was self-preservation. The word *physician* is derived from the Greek *physis* nature, so that originally the physician was a student of nature.

Andre Maurois, the noted French journalist, writing in the Atlantic Monthly pays the following compliment to American diet: "Beware of salads. American salads are culinary heresies. In them you will find slices of fresh fruit criminally soaked in oil, cheese and cabbage gone astray, hearts of lettuce so tough that your knife makes no impression on them." Personally we are inclined to endorse the writer's opinion of this what seems to be peculiarly an American dish. We cannot, however, say that French culinary efforts are entirely to our liking. While on a visit to Paris we had served up for us the brain of a calf neatly sliced by a microtome; all that was wanting was the microscope to enable us to make out the anatomical and histological structure of the specimen.

Mr. J. H. D. Ferguson, for many years an artist to members of the surgical profession of Detroit, is dead. He was a full-blooded Scotchman who, however, was born in India. Before coming to Detroit he was a portrait painter of distinction, having pursued his work in the principal art centers of Europe. Feeling the need of a competent surgical illustrator in Detroit, a number of surgeons sent him to Johns Hopkins University, where he pursued the work of medical illustrating under Max Brodel. This was shortly after the war, since which time until his last illness he made illustrations for many of Detroit's surgeons. A number of his illustrations have appeared in this Journal. His work will be missed, since he showed a remarkably intelligent knowledge of surgical anatomy.

One of the methods of influencing the minds of youth in our early days was the copybook headings in which he copied, sometimes laboriously, bits of wisdom or moral precepts to the effect that "honesty is the best policy" or it may be a philippic with the purpose of promoting temperance, "Strong drink is raging." Kipling has hit upon the idea:

"As I pass through my incantations in every age and race
I make my proper prostrations to the Gods of the market place
Peering through reverent fingers I watch them flourish and fall
And the Gods of the copybook headings, I know outlast them all."

The French are said to have been so impressed with the psychological soundness of the method that they have turned it to a purpose not to promote total abstinence in the way of condemning all alcoholic liquors but to select French wines rather than German wines or Scotch whiskey and English beer. By means of suitable copybook maxims children are said to be taught that Bacchus is the god of French wine and that

it is only the vinous products of other countries that are "raging."

"WEDDINGS ON THE DOLE"

"Many of the 200 or more brides who were married on Saturday during Oldham (Lancashire) 'Wakes' week were starting married life with husbands on the dole.

'Most of the couples drove to the register office or church in gaily decorated taxicabs, attached to which were big cards proclaiming the new found happiness of the occupants. Taxicab drivers in the town had their busiest and most lucrative day of the year."—News item from the *Over-Seas Daily Mail,* London, England.

Comment is not necessary.

ODE TO AN ULCER

Oh, junket is a simple food,
Designed to suit my gastric mood;
It's nourishing and sweetly mild,
It would not harm the smallest child.
I hate it!

Creamed soups are simply swell for me,
They're full of calories, you see;
They will my strength and health restore.
I ought to eat and howl for more.
I hate 'em!

And there's delicious custard, too,
Should make my tummy fairly coo—
And cream of wheat and good rich milk,
And white of egg as smooth as silk
And other things of that same ilk.
I hate 'em!

Now ham is very bad for me,
And beef is oh! so sad for me;
To me a lobster's just a curse
And cigarettes a damn sight worse;
And as for cocktails, good-night, Nurse!
I love 'em.

A. E. Thomas *in Medical Times and Long Island Medical Journal.*

WEELUM ON USELESS COMMISSIONS

Weel, oor five hunder thoosand dollar commission hae commissioned aince mair. They hae telt us th' noo that oor politicians an' bandits an' police are splittin' fees wi' ane inither. Man, bit thats nae sae guid.

The medical Doctors a' o'er this bonnie country tell us that splittin' fees is nae ethical.

But wha is th' man amung us wha expec'ed onything ethical frae ony o' that bunch o' pussycats wha are meowin' roon' nichts, takin' oor spare tire an' instruments an' whackin' us on th' heid wi' a club when th' policeman is nae lookin' an th' politician hidin' oot wi' his cronies.

We are no questionin' th' commission's findings. We ken that it is a' true. We hae kent that thae three chaps hae been freens this lang time. Th' commission ha'na gi'en' us onything new. Their report is'na worth th' monie. We canna sell it for onything.

We a' ken that eight oot o' ten politicians are saft, an' eight oot o' ten bandits are smart folk, an' eight oot o' ten policemen are simple folk. Noo then, ah'll tell ye what th' commission micht do tae mak their report worth a' this monie an' mair. They micht tell us some way whereby we could droon a' th' eight-tenths o' a' thae kittens.

Ah! Weel, guid nicht.—*Weelum.*

DEATHS

DR. CALVIN R. ELLWOOD

Dr. Calvin R. Ellwood of Menominee was found dead in bed on Friday afternoon, September 18. Dr. Ellwood was born at Waterford Center, Oakland County, on June 24, 1870. He attended the Pontiac High School, graduating with the class of 1889. He entered the University of Michigan in 1890 and was graduated M.D. from that institution four years later. During his senior year in medical college Dr. Ellwood was clinical assistant to Dr. Fleming Carrow, one time professor of eye, ear, nose and throat diseases at the University. Following his graduation he was assistant physician at the Eastern Michigan Asylum for the Insane at Pontiac. Dr. Ellwood specialized in diseases of the eye, ear, nose and throat. He was married in 1897 to Miss Harriet E. Spies of Menominee. During the war he was commissioned as a lieutenant in the Medical Reserve Corps and was assigned to the medical department of the Chemical Gas Defense plant at Long Island. Dr. Ellwood is survived by his widow, a son and daughter and by one brother, C. B. Ellwood of Jackson, Mich.

DR. HARRY W. KNAPP

Dr. Harry W. Knapp died suddenly at his home, 1703 Detroit Street, Flint, Thursday evening, October 8, 1931, of coronary thrombosis. He was born August 9, 1872, at South Lyons, Mich. He graduated from the Detroit College of Medicine in 1903 and practiced in Gaylord five years and in Johannesburg ten years. He served in the Medical Corps of the U. S. Army during the World War from July, 1918, to July, 1919, at Camp Perry in Ohio and Camp Knox in Kentucky. He was a very active member of Genesee County Medical Society with a practice in Flint 12 years. The funeral was at his home Sunday, October 11, with Rev. Lane W. Barton, of St. Paul's Episcopal Church, officiating. Burial was at St. Clair, Mich. The members of the Genesee County Medical Society deeply regret the loss of one of their active members.—*The Bulletin of the Genesee County Medical Society.*

DR. STUART MORTON STUBER

Stuart Morton Stuber was born at Scotville, Michigan, January 13, 1902, and died September 8 at Flushing. The family moved to Clio soon after and here he attended school, graduating from high school in 1920. He then spent one year at Albion and one at Ypsilanti. He taught school at Peck and Montrose two years each following this. He entered the University of Michigan Medical School in 1926 and received his M.D. Degree in 1930. He spent one year as an interne in Hurley Hospital, where he was known for his willingness and conscientiousness in his work. He had just started practice in Flushing when the unfortunate illness came and he died after four days of confinement to bed. He leaves his wife; his father and mother, Mr. and Mrs. A. N. Stuber of Clio; three brothers, Harry, Kendell and Wendell; and a sister, Alberta. —*The Bulletin of the Genesee County Medical Society.*

GENERAL NEWS AND ANNOUNCEMENTS

Dr. Claude Keyport of Grayling was appointed on the Board of Registration.

Mr. Max Wolfson, father of Dr. Victor Hugo Wolfson of Mt. Clemens, died on October 3, 1931.

Dr. F. C. Warnshuis addressed the Bay City Rotary Club on October 27 on the subject "Red Lights of Life."

President Moll's committee appointments are imparted in the minutes of the Council's Executive Committee minutes published in this issue.

Dr. Frank A. Kelly has been reappointed a member of the Michigan State Board of Registration in medicine for the next term of four years.

Note the clinical program for the meeting on November 5 in Jackson, conducted by the Jackson County Medical Society. A cordial invitation is yours.

Dr. Henry A. Luce of Detroit has been chosen as trustee of the Wayne County Medical Society to fill the vacancy caused by the resignation of George Van Amber Brown, who has recently moved to Edinburg, Texas.

Lydia L. Lightring, M.D., Women's Medical College, and recently Professor of Physical Education at Michigan State College, East Lansing, Michigan, and Roland Kalmbach, M.D., were married Sept. 12, 1931, at Jackson, Mich.

Governor Brucker announced the following appointments to the State Board of Registration in Medicine: Drs. Frank Kelly, J. D. Brook, J. Earl MacIntyre, W. Ellwood Tew, and Claude R. Keyport. The first four are reappointments. Dr. Keyport succeeds Dr. W. H. Marshall of Flint, who declined to serve further.

At the bi-annual meeting of the Board of Registration in Medicine Dr. J. Earl McIntyre of Lansing was elected president succeeding Dr. Frank Kelly of Detroit. Dr. J. D. Brook, Grand Rapids, was elected vice president. Dr. Nelson McLaughlin, Detroit, was elected secretary succeeding Dr. F. C. Warnshuis. In conference with the Governor, it was agreed to continue the office in Detroit for a time.

On Dr. Charles Godwin Jennings of Detroit was conferred the honorary degree of Master of Arts at the annual fall commencement of the medical faculty of the University of Michigan. Dr. Jennings is the second physician in this State to receive this honor. The degree was first conferred upon the late Dr. C. B. Burr, a year ago. The address given by Dr. Jennings before the medical faculty and students will appear in the December number of this Journal.

Dr. William J. Stapleton, Jr., 404 West Fort St., Detroit, Michigan, has succeeded the late Dr. Frank Burr Tibbals as Chairman of the Medico-Legal Defense Committee of the Michigan State Medical Society. While this was announced in this Journal at the time of Dr. Stapleton's appointment, it has been found necessary to make the announcement again. Any member of the Michigan State Medical Society threatened with a charge of malpractice should consult Dr. Stapleton, either by letter or by telegram.

Pursuant to the resolution passed by the House of Delegates at the recent annual meeting in Pontiac for the purpose of making a survey of the medical situation as it obtains in this State, the following committee has been appointed by the executive committee of the Council of the Michigan State Medical Society: Drs. Charles J. Kennedy, Detroit, chairman; L. G. Christian, Lansing; W. H. Marshall, Flint; C. S. Gorsline, Battle Creek; J. Milton Robb, Detroit; F. C. Warnshuis, Grand Rapids, secretary, ex-officio. This committee will report at a special meeting of the House of Delegates to be called in January.

The first week in October witnessed the resumption of activities of the county medical societies in this State. The largest Medical Society is Wayne County. The opening meeting on Tuesday evening, Oct. 6, was greeted with a full house. The occasion was a joint meeting with the Detroit Obstetrical and Gynecological Society. After brief addresses by Dr. H. W. Plaggemeyer, President, Dr. J. M. Robb, immediate Past-President, and Dr. H. Wellington Yates, President-Elect, the scientific address of the evening was given by Dr. R. T. LaVake of Minneapolis, Minnesota. The subject of the address was "Important Problems in Obstetrics and Gynecology."

Dr. Walter J. Cree, of Detroit, attended the annual meeting of the Pan-American Medical Association at Mexico City, where he read a paper entitled "The Evolution of Specialism in Medicine and Surgery." Sixteen countries were represented at this meeting. The next meeting of the Pan-American Medical Association will be held at New Orleans. Dr. Cree has spent many winter vacations in Cuba, where he has had occasion to meet a number of prominent physicians in Cuba and Central America including Dr. Agremonte, who became famous in the conquest of yellow fever. Dr. Agremonte's death was announced within two weeks of the meeting at Mexico City.

Dr. William A. Evans of Detroit was honored by being elected to the position of President-Elect of the American Roentgen Ray Society at the annual meeting in Atlantic City on September 24. The American Roentgen Ray Society is the older of the two national organizations of roentgenologists in the United States. One of the chief founders of this Society was the late Dr. Preston M. Hickey, at the time a resident of Detroit and member of the Wayne County Medical Society. Dr. Lawrence Reynolds of Detroit, who has been for several years editor of the Journal of the American Roentgen Ray Society, was re-elected to the position at the annual meeting. The next annual meeting of the Society will be held in Detroit in 1932.

The Northern Michigan Children's Clinic at Marquette, Michigan, according to an agreement between the trustees of the Clinic and the University of Michigan will be operated as a branch of the University Hospital. The Clinic is a coöperative movement in which the University of Michigan Post-Graduate Medical Department, St. Luke's Hospital, and the Children's Fund are concerned. Children who are wards of the State will be treated at

Marquette, and only at Ann Arbor in instances that equipment of the University Hospital is needed. The Northern Michigan Children's Clinic was opened in June, 1931. An account of the opening was given in the July number of this Journal, page 545.

On the evening of Tuesday, October 20, a meeting was held of doctors from Sanilac, Lapeer, Wayne, Oakland, Genesee and Macomb Counties, which partook of a wild duck dinner at Holbeck's Hotel at Fairhaven. After the dinner a social evening was spent in which Dr. Welman, president of St. Clair County Medical Society turned the meeting over to Dr. T. F. Heavenrich of Port Huron, councillor of the 7th district. Among those present who addressed the meeting were Drs. Carl F. Moll, president of the Michigan State Medical Society, J. M. Robb, president-elect of Detroit, Dr. Angus McLean, past-president, Henry Luce, past-president of the Wayne County Medical Society, A. S. Brunk, councillor of the 16th district and C. A. Neafie, councillor of the 15th district, Pontiac.

OAKLAND MEDICAL SOCIETY 100 YEARS OLD

The one hundredth anniversary of the Oakland County Medical Society was celebrated at Pontiac during the week beginning Sunday, September 20.

The program began on Sunday evening, September 20, with a memorial service held in the Baptist Tabernacle. The service was in charge of Reverend H. H. Savage, who paid a glowing tribute to the physicians of Oakland County who had passed to the Great Beyond.

On Monday evening, September 21, the Centennial Banquet was held at Stevens Hall. More than one hundred county physicians, their wives, and guests were in attendance, commemorating the founding on July 14, 1831, of the County Society. The guest speaker was Dr. Clark D. Brooks, Detroit, who chose for his topic "Pioneer Medical Men of Oakland County." He outlined a history of early county medical practice and commended the work of the pioneer doctors. Preceding Dr. Brooks' talk, Dr. Ray C. Stone of Battle Creek, president of the Michigan Medical Society; Dr. Carl F. Moll of Flint, president-elect; James H. Lynch of Pontiac, president of the Board of Education; Harold A. Fitzgerald, editor and manager of the Pontiac Daily Press; Mrs. Frank A. Mercer, president of the county auxiliary; and former senator, A. B. Glaspie of Oxford, were called on for short talks. They were presented by Dr. L. A. Farnham, president of the Oakland County Medical Society. Dr. Brooks was introduced by Dr. Frederick A. Baker, centennial chairman.

Throughout the week the centennial health exhibition was held in the Presbyterian Church, among the agencies participating being the American Medical Association, Michigan State Department of Health, Oakland County Department of Health, Pontiac Department of Public Health, Visiting Nurses Association, Oakland County Chapter of the American Red Cross, Oakland County Chapter of the Michigan Society for Crippled Children, Pontiac Public Schools and the Wilson Foundry and Machine Company.

The closing feature of the centennial celebration was held on Thursday, September 24, in the Baptist Tabernacle, when Dr. Morris Fishbein, Chicago, editor of the Journal of the American Medical Association, delivered a public address on "The Frontiers of Medicine."

The Oakland County Medical Society promoted an essay contest for Oakland County teachers and high school students, the essay to be based on the address of Dr. Fishbein. Prizes totaling $300 are to be given to the winners. Announcement of the names of the winners will be given at a later date. The winning papers are to be published in "Hygeia."

The arrangements for the centennial celebration were under the direction of Dr. Frederick A. Baker of Pontiac.

COMMUNICATIONS

KEEP IN GOOD STANDING IN YOUR COUNTY SOCIETY

The Editor of the Journal of the Michigan State Medical Society:

As usual I read with pleasure and profit the October number of The Journal of the Michigan State Medical Society. Especially do I enjoy your front page messages. The one this month entitled "Why a Medical Society" is especially apropos at this time. Since taking over the Chairmanship of the Medico-Legal Committee (so ably looked after by the late Dr. Frank Burr Tibbals for many years) I have been struck by the increasing menace of suits brought against physicians. As you state, "Affiliation with the County Medical Society means protection, so that in this State the cheapest and most effective medical protection insurance is included in membership in the County and State Medical Societies." This is true. For obvious reasons it is not feasible to give here the number and types of suits brought against physicians. There is hardly a day goes by without a call regarding some phase of malpractice, real or alleged.

The insurance companies doing malpractice work are kept busy, I assure you. No man should lapse his membership in the Medical Society for any reason. The Society acts like the shock troops do in war. "Social medicine demands that we maintain a strong group spirit," I quote again, Sir. This is an essential part of our defense in malpractice cases. The motto "United we stand" is of the greatest value in preventing the bringing of suits against brother physicians. To the physicians I suggest that they all read a new book, "Medical Jurisprudence," by Carl Scheffel, Ph.B., M.D., LL.B., published by P. Blakiston's Sons. It is a small volume and treats the subject in a manner that will at once appeal to the physician, whether general practitioner or specialist. Again, the advice, X-ray in all fracture cases, don't be afraid of employing consultants, take every precaution and keep up your medical society membership and your insurance.

Wm. J. Stapleton, Jr., M.D.,
Chairman Medico-Legal Committee.

October, 3, 1931.

Dr. F. C. Warnshuis, Secretary
Michigan State Medical Society
Grand Rapids, Michigan.

My dear Doctor Warnshuis,

I have your letter of September 29th, stating the official action of the House of Delegates of the Michigan State Medical Society at its meeting in Pontiac.

I appreciate this action and will communicate it at once to the State Unemployment Commission.

Please thank the Medical Society for this prompt and helpful proffer of assistance.

Very sincerely yours,
(Signed) Wilber M. Brucker.

Proceedings - 111th Annual Meeting Michigan State Medical Society Official Minutes of the House of Delegates Pontiac, Michigan, Sept. 22, 1931

MINUTES OF THE ANNUAL MEETING OF THE COUNCIL

FIRST SESSION

The first session of the Annual Meeting of the Council of the Michigan State Medical Society was called to order at 4:00 P. M. on September 21, 1931, in the Waldron Hotel in Pontiac, by the Chairman, with the following Councilors present:

Henry R. Carstens
A. S. Brunk
J. E. McIntyre
George C. Hafford
C. E. Boys
B. R. Corbus
Henry Cook
T. F. Heavenrich
Julius Powers
Harlen MacMullen
Paul R. Urmston
George L. Le Fevre
Richard Burke
B. H. Van Leuven
J. D. Bruce
C. A. Neafie
R. C. Stone, President
C. F. Moll, President-Elect
F. C. Warnshuis, Secretary

1. Dr. Harlen MacMullen of Manistee was introduced to the Council as the new Councilor appointed by the President to fill the unexpired term of Dr. O. L. Ricker, deceased.

2. The Secretary presented the tentative draft of the annual report of the Council to the House of Delegates. This was discussed paragraph by paragraph, with the making of several changes in phraseology and then upon motion of McIntyre-Heavenrich the Annual Report was approved and ordered presented to the House of Delegates at its first session.

3. The supplementary report of the Council to the House of Delegates dealing with foundations operating in Michigan was discussed paragraph by paragraph and upon motion of Boys-Carstens was approved and was transmitted to the House of Delegates.

4. Dr. B. W. Carey, medical director of the Michigan Children's Fund, appeared before the Council and presented certain proposed plans that were being considered by the Children's Fund relative to diagnostic laboratories in certain selected centers of the state. Following Dr. Carey's presentation there was a general discussion participated in by the members of the Council. Upon motion of Le Fevre-Van Leuven the following expression was recorded:

> The tentative plan presented by the Michigan Children's Fund having in view the establishing of diagnostic clinical laboratories in selected centers, for the purpose of providing diagnostic service in those rural areas that are now deprived of obtaining such modern medical procedures, is received by the Council in a favorable light and the Council is impressed by the possibilities that may arise from this plan.
>
> The Council, therefore, endorses the principle and in developing the details for the establishment of such diagnostic clinics the Council desires to offer the coöperation, assistance and services of the Michigan State Medical Society and recommends that the Council, together with the local profession in the regions affected, be consulted in the advancement of this proposal.

5. The Council deferred submitting nominations for honorary membership pending the action of the House of Delegates upon the recommendation of the Council in regard to amendments to our Constitution and By-Laws that relate to honorary membership.

6. The Secretary was directed to transmit to the House of Delegates the invitation from the Kalamazoo Academy of Medicine to hold our 1932 Annual Meeting in Kalamazoo.

7. The Code of Ethics presented by the Michigan Association of Industrial Physicians and Surgeons was discussed and upon motion was referred to the House of Delegates without recommendation.

8. The Secretary presented a communication from the Officers and Council of the Wayne County Medical Society relative to certain resolutions pertaining to the 18th amendment. Upon motion the Council expressed the sense that this resolution be not transmitted to the House of Delegates.

9. The Secretary presented a communication from the Second District, and the members of the Jackson County Medical Society, relative to a Post Graduate program that is to be instituted in Jackson during November, and containing the request that financial assistance be given for defraying the expense of this Post Graduate Conference. Upon motion of McIntyre-Bruce, an appropriation of $75.00 was made for that purpose.

10. The Secretary presented a communication from the Michigan State Tuberculosis Society in which was contained a refusal to accept the terms formulated by the Council under which diagnostic tuberculosis clinics would be conducted throughout the state. Upon motion duly made the communication was laid upon the table.

11. The Council adjourned at 9:30 P. M.

SECOND SESSION

The second session of the Council was held in the Waldron Hotel, Pontiac, at 12:00 noon, Tuesday, September 22, 1931, with all the Councillors, President, President-Elect and Secretary, present.

1. The Secretary presented a resolution that had been introduced into the House of Delegates by Dr. Wm. J. Stapleton of Wayne County, relative to the investigation of the possibilities whereby the radio might be employed in this state to impart the truths of scientific medicine. Upon motion of Cook-Burke, this was referred to a special committee of the Council, to be appointed by the Chairman, to report at the next mid-winter meeting of the Council.

2. The Whittaker resolution that was introduced in the House of Delegates, calling for a survey of the main agencies now active in the state in some form or other and dealing with medical practice and social service, was discussed by the Council but no definite action taken other than to designate Councillors Carstens and Cook to engage in the discussion of the resolution when it again is brought up in the House.

3. Upon motion of Bruce-Hafford, the Council appropriated $1,000 or a proportionate percentage thereof to defray the expenses of the Michigan commission on infantile paralysis.

4. Upon motion of Brunk-Le Fevre, the Minutes of the Executive Committee as published in the Journal were approved and incorporated as part of the regular minutes of the Council.

5. Upon motion of Urmston-Powers, the Secretary was directed to send mimeographed copies of the Minutes of the Executive Committee to each member of the Council before publication in the Journal.

THIRD SESSION

The third session of the Council was held in the Waldron Hotel, Pontiac, at 6:00 P. M., September 22, 1931, with all the Councillors, President, President-Elect and Secretary present.

1. Upon motion of Carstens-Van Leuven an appropriation of $300.00 was made for defraying the awards of the scientific exhibits.

2. Upon motion of McIntyre-Neafie, a preliminary appropriation of $250 was made to defray the organizational expense of the special committee created by the House of Delegates in response to the resolution that was introduced by Whittaker of Wayne County.

3. Upon motion of Powers-Boys, the Chairman was directed to appoint the judges who were to make the awards of the scientific exhibit.

4. Councillor Brunk raised the question of the designation of the two councillor districts in Wayne County, which at the present time were being designated as districts—1st District A and 1st District B. Upon motion of Carstens-Brunk, the Council designated that portion of Detroit East of Woodward Avenue as District 1, and that portion of Detroit West of Woodward Avenue as Councillor District No. 16.

5. Councillors Van Leuven-Burke, moved the adoption of the following resolution:

The Council of the Michigan State Medical Society convened in Annual Session records with deep regret the death of their fellow Councillor, O. L. Ricker.

The Council voices its personal and collective appreciation in so far as words can its sincere recognition of the noble, self-sacrificing services that Doctor Ricker rendered to humanity, to communal life and to the furtherance of the ideals of organized medicine.

Therefore Be It Resolved, that the Council does hereby record its recognition, engross it upon our records and preserve in our archives this memorial of a life that exemplified such noble traits.

FOURTH SESSION

The fourth session of the Council was called to order in the Masonic Temple, Pontiac, at noon, September 23, 1931.

1. Upon motion of Powers-Heavenrich, the Secretary was directed to cast the ballot of the Council for B. R. Corbus as Chairman, and Henry R. Cook as Vice-Chairman. The Secretary did so cast and these officers were declared elected for the ensuing year.

2. The Chairman of the Council discussed the question of the personnel of the Executive Committee, and stated that inasmuch as the Executive Committee would hold over until the Mid-Winter session of the Council, he desired the Councilors to consider suggestions for presentation as to who shall constitute the Executive Committee of the Council.

3. The Chairman requested the Councillors to submit names for appointment to the special committee created by the Whittaker resolution, and stated that same would be considered by the Executive Committee and the appointments made from the list of names so submitted.

There being no further business the Council adjourned to meet in mid-winter session at such date and place as the Chairman designates.

F. C. Warnshuis, *Secretary.*

MINUTES OF HOUSE OF DELEGATES

First Session

Tuesday Morning Session

September 22, 1931

The first session of the Annual Meeting of the House of Delegates was called to order by Speaker Pyle at ten o'clock on the morning of September 22, 1931, in the Masonic Temple, Pontiac, Michigan.

Speaker Pyle: Gentlemen, will you please be seated so we can call this meeting to order?

Is the Credentials Committee ready to report, Dr. Hasley?

I might mention that Dr. Stapleton is unable to take his position as Chairman of the Credentials Committee, so the chair appointed Dr. Hasley.

Dr. C. K. Hasley (Wayne): Mr. Chairman, the report of the Credentials Committee is as follows: Fifty-three qualified delegates have registered, and thirty-six constitute a quorum.

Speaker Pyle: We will now listen to the roll call.

Secretary Warnshuis: Mr. Speaker and Members of the House: I hold in my hand the signed roll call of forty-four accredited delegates. I move, sir, that this constitute the first roll call of the house.

The motion was seconded, put to a vote and carried.

Speaker Pyle: We will now listen to the minutes of the previous meeting.

Secretary Warnshuis: The minutes of the last annual session were published in the Journal. No delegate has advanced any corrections or made any suggestions as to changes in the minutes. The opportunity now exists for making any such suggestions, and if there is none, then the Speaker should entertain a motion for the adoption of the minutes of the last annual session.

Dr. Biddle (Wayne): I move they be adopted.

The motion was seconded by Gorsline of Calhoun, put to a vote and carried.

Vice Speaker Dutchess assumed the chair.

Vice Speaker Dutchess: We will now listen to the Speaker's Address.

Speaker Pyle read his prepared address:

SPEAKER'S ADDRESS

Gentlemen: The program of the 111th Annual Meeting of the Michigan State Medical Society re-

veals some inconsistent situations. In looking over the schedules as given in the last number of our State Journal I noticed that the surgeons would meet in the Baptist church and the internists in the Presbyterian church, while we, the House of Delegates, were to meet in a home of a fraternal society. Furthermore, I noticed that the first general session was to be opened with words of prayer by a clergyman. It seems that we are to struggle along without Divine guidance, in spite of the fact that I consider the House of Delegates the most important branch of our Organization.

Since starting the practice of medicine twenty-four years ago I have always been a firm believer in Organized Medicine. I cannot go into detail as to the extent of the accomplishments of Organized Medicine in the interest of Michigan's population. It would be much easier to mention some of the things that irregular practitioners have not done. During the past few months we all have been reminded of our duty to the public. I have in mind our infantile paralysis campaign. I call it *our* campaign because without our Organization the public health officials would be seriously handicapped. However, our rank and file has stepped in to do everything possible, not only to provide the means of treating the victims of this malady, but also to prevent further spread of the disease. Can you imagine what would happen to a large number of individuals in this Commonwealth if it were not for the Michigan State Medical Society? Gentlemen, you should feel honored in having been chosen by your respective counties to be seated here as delegates. This assembly represents for the present the very foundation of Organized Medicine in this state. If you stop to consider, you will realize that our Organization has always had public health welfare as its primary consideration, and you can readily see that I consider it a great responsibility and honor to be called upon to preside over this assembly.

For the past one hundred years Organized Medicine in Michigan has been endeavoring to do all it can to prevent the spread of communicable disease. As individuals we have tried our best to instruct our patients how to prevent disease, but as an organization, too, we have been absolutely unselfish in trying to cut down the incidence of morbidity, and in that way we have reduced our own financial income. Yet, there are those within our own professional ranks who will refer to anyone holding a position in Organized Medicine, whether it be President of the A. M. A. or Secretary of a county society, as a politician. Gentlemen, let me admonish you again, no matter where you worship, be it in cathedral, church, synagogue or under Heaven's blue dome, to make Organized Medicine at least a part of your religion, because it has always worked for the good of mankind.

To come back to the scourge of infantile paralysis, does the chiropractor, osteopath or Christian Scientist do anything to stop this plague? No. Yet, are not they the very ones who will receive the greatest financial gain? First of all, the chiropractor, no doubt, will be jumping over the frames of those who live and are left with useless limbs. God forgive them! It would be charitable to say that "they know not what they do." They know not the difference between hyperplasia and hysteria. Fond parents will drag their paralyzed offspring to the work benches of these long-haired artists, all to no avail, and leave their hard earned dollars; and possibly part of each dollar in turn will go toward undoing much of the good that Organized Medicine has accomplished in this State. And then some M.D.'s even consult with them! Personally, I would rather be seen on the streets with a fishwife.

How are we to meet this situation? You, as delegates, can do a great deal. If it is a fact that the Michigan State Medical Society is an altruistic organization, go back to your respective communities and do everything to uphold it. See to it that every M.D. worthy of the title joins your society and takes an active interest in it. I have been led to infer that those with the largest incomes take the least interest in county doings. If this is true, an effort should be made to arouse their interest. I have been advised that hundreds of our members have been unable to pay their society dues. In this I see a great danger. Steps should be taken to retain these members. It would be a noble act, indeed, if the small group in our profession who have prospered financially would alleviate this condition by providing a fund so that those in arrears may enjoy their full privileges.

During the past year our society has lost many members through death. This year we will miss many who have been particularly active, and, although time will not allow a lengthy eulogy, we might mention Doctors Hornbogen, Sawyer, Tibbals, Burr and Riker. A composite picture of these five men would give one a good idea, in a glance, of the stuff of which good doctors are made. It is a strange fact, indeed, that the stormy Hornbogen, whose life was prolonged for many years of usefulness through one of the great discoveries of medicine, insulin, should be felled down by a murderer's bullet. Dr. Hornbogen had a way all his own, and although we might disagree with him at times, he was always sincere. We shall miss both his growl and his smile. Sawyer, who was interested in education; Tibbals, who was our faithful legal adviser; the dignified Burr, who put in order disordered lives; Riker, the quiet, unassuming gentleman who was so respected; all were men of true worth. Let us remember them always and carry on with zeal the sincere interest which they displayed in the efforts of Organized Medicine.

There is one interesting observation that I would like to make before concluding these remarks. During several years of experience in this House of Delegates I have noticed that at times we have been surrounded by some of the state's hoary seers of medicine who had arrived before the opening of their scientific sections; some peering through doorways, others standing in the rear of the assembly room, and still others sitting on windowsills. Possibly some of these learned men come "to mock and not to pray," so it behooves this assembly to exercise a proper degree of decorum. I trust that our deliberations will be orderly and that all discussions will be clear, coincise and to the point in question. Many problems confront us and we must not waste our time on irrelevant matters. Your Speaker appreciates the hearty support and loyal coöperation given him in the past and begs the same consideration during these sessions.

Vice Speaker Dutchess: The Address of the Speaker will be referred to the Committee on the Reports of Council and Officers.

Speaker Pyle resumed the chair.

Speaker Pyle: The next item is the report of the President, Dr. Stone.

PRESIDENT'S ADDRESS

Mr. Speaker, Members of the House of Delegates: Ever since I can remember, it has been the custom for the president to prepare an address for presentation to your body. It was my intention to do that same thing. When I received a few days ago or a few weeks ago the report of the Council, which

is to be presented to you shortly, it had covered so thoroughly and so beautifully the activities of the past year, and possibly some future activities, that I thought possibly it would be just as well for me to have a little informal talk with you upon some of the observations which I have made during the past year.

I want to indorse most heartily everything which your Speaker has said in his splendid address to you. I also want to commend the officers, the Council, the delegates, and the various committeemen for their splendid activities throughout the year. On the part of everyone throughout Michigan, so far as I know, the spirit of coöperation has been one of harmony, and almost always of unity. That, of course, is the only way the Michigan State Medical Society or any other organization can progress.

One of the subjects which I thought it would be well to bring out to you this morning is the question of the Upper Peninsula. It was my privilege last month to attend the meeting of the Upper Peninsula Medical Society at Houghton, and the month previous to attend the dedication of the Marquette Clinic.

I came in close contact with men all over the Upper Peninsula, and I want to say this to you men, that in your deliberations, in the development of your programs, and in all of your activity, you must always, for the sake of harmony in Michigan, consider the men of the Upper Peninsula. They are a fine, splendid, well qualified group of professional men, isolated, as you know, by a great distance from the Lower Peninsula.

I think, in that connection, I will mention here the question of your annual meeting. It has been the policy of this organization to meet in three or four of the largest cities of the Lower Peninsula, ordinarily, and I think that policy is the correct one. There are only three or four of the largest cities of the Lower Peninsula which have the facilities, the meeting places and the hotel accommodations, which will lead to a successful meeting of this body, and you must always plan to select your meeting place with that in mind, because if you are going to meet haphazardly here and there without suitable accommodations, it will not be long until your meetings will become certainly less attended, and to connect that up with the Upper Peninsula, in justice to the men up there who have to travel great distances, once in four, five, six, or seven years, you should make it a point to get near enough to them so a larger percentage of their group can attend your meetings. And I hope in your contacts as you go through Michigan, and especially the upper part of Michigan, you will make better and firmer contacts with those men up there.

Your Speaker alluded to the recent activity against poliomyelitis. About five or six weeks ago, Dr. Bruce, Dr. Pritchard, and your President, were asked to attend a conference with the officials of the Department of Health, to consider the question of infantile paralysis. After a brief survey of the conditions then existing in Michigan, and summarizing the conditions as they existed in the eastern part of the country, going over the history of previous years, it looked as though Michigan were in for many more cases than their normal in this present year.

We found at that time, in our judgment, a serious emergency facing the people as well as the profession of Michigan. As a result of that meeting, representatives of other groups were invited to attend a meeting on two or three succeeding days, and eventually a Commission on Infantile Paralysis in Michigan was developed. I do not need to detail the program as it was developed by that organization. All you men have had the literature from it, literature coming out from the Secretary's office. But, I want to say this to you: as that program has developed, never, since I have been connected with this organization, have I seen the medical profession come up more quickly, more actively, and more efficiently, backing up a program, than they have in that. I think it is to the credit of the profession of Michigan that they responded so beautifully.

On the other hand, the laity, the public, has responded equally well, and we believe as the result of the formation of that Commission and the program which was established, that many children in Michigan have been saved the horrible late results of poliomyelitis, and I want to express my appreciation to you men for the support which you have given that program.

The last subject that I want to speak briefly about is rather a difficult one for anyone to discuss, and that is the question of legislation. I want to commend first the very enthusiastic, untiring effort which the Legislative Committee of this past year put forth. Never since I have been connected with organized medicine in Michigan has any legislative committee put in the time and effort in endeavoring to keep, not only the Committee, but the members of the profession, and the offices, posted on the situation as it existed in Lansing. I think we were extremely fortunate in this last session of the Legislature in having a committee of that type. I am not going into detail about any of the bills which were presented or discuss any of them.

As you know, as the result of the activity which has taken place at Lansing during the last three or four sessions of the Legislature, there has been a committee appointed, or a commission, call it what you please, consisting of three members of the House and four members of the Senate. That committee is to endeavor to review the medical acts of Michigan and come back and report to the next session of the Legislature on some type of program which they think will take care of the practice of the healing art for time eternal.

What that committee will do nobody knows. I think it is essential, for the best interests of the Commonwealth of Michigan and for the best interests of the medical profession, that if there is any way in which we can give this commission the results of our observations in an unbiased and a diplomatic way, it should be done.

The next session of the Legislature no doubt will see as many, and maybe more, bills presented than it ever has, and if possible we should be in a position to exert a little influence in that body. As I see it, the one greatest need in the medical profession today is the development of a higher degree of leadership in every community, on the part of the medical men. As medical science has progressed and the keen interest which the medical men have taken in the art has carried on along with it, it seems to me that the professional men have not taken as active a part in the civic, industrial, economic, and cultural activities of their communities as they might have, and consequently, not having taken that active part, we have not in the last fifteen or twenty years been developing the leadership in those communities which we should have.

If we are going to have influence in the economic, political, and other phases of our life in Michigan, we as medical men must take a more active part in all of the activities in our own communities, and I urge upon you to consider this seriously and to put forth every effort possible in every community in Michigan that you may develop a greater leadership.

In conclusion, I wish to express to the House of Delegates my very deep appreciation for the privilege which you gave me last year and the pleasure I have had, and the honor, in serving as your president during the past year. It has been a distinct

pleasure to me, and I think has probably meant more in profit to me than to you.

I thank you.

Speaker Pyle: Our President's Address will be referred to the Committee on Officers' Reports.

We will now listen to the President-Elect's Address, Dr. C. F. Moll.

PRESIDENT-ELECT'S ADDRESS

Mr. Speaker, Members of the House of Delegates: If some of the remarks I make are duplicates of your Speaker's and President's addresses, I hope you will only construe them as adding double emphasis to the seriousness and importance of these matters that are being brought up.

It has been my duty as well as pleasure to address this body on numerous occasions, but never before have I felt that we have had so many vital problems confronting us as we have today, problems not only of a scientific nature, but of a social and economic character, and as this assembly deals largely with the economic side of the practice of medicine, the major portion of my remarks will be along these lines.

In my Speaker's address to you at the Grand Rapids Session held in 1923, I made the recommendation that our annual dues be raised to $10.00 per year, in order that we might have an adequate fund at our disposal, to carry on in a larger way our post-graduate conferences and other activities which were then under consideration. These recommendations were adopted by your House of Delegates and the annual dues have since remained at this figure. That this was a wise move on your part is borne out by the well acknowledged fact that we have been able to give you post-graduate teaching of the highest character, and that at a minimum of expense and effort on the part of the practitioners of this state. We have "Carried the message to Garcia."

These extra dollars have also helped make it possible for your editor, business manager and publication committee to produce a Journal which in my opinion has no peer among State Medical publications. And in addition to these accomplishments we have been able to accumulate a healthy surplus.

The question has been raised that, owing to the reduced incomes of practically every member of this society, would it not be a proper time to, temporarily at least, lower the dues to their former figure? This matter has been given much serious consideration by the various members of the Executive Committee, and it is deemed inadvisable to recommend any change at this time. While it is true we are, at present, in a good financial condition, we are "carrying" for the year 1930-1931 over 600 delinquent members (this means that they are not only getting the Journal but will be protected if threatened by a malpractice suit by our Medical League Defense Committee) and judging from the present outlook this number may reach the thousand mark before the end of another year. Still another factor which has a bearing on this condition is the tending of some of our old advertisers to cut down on their space or to give up their present space on the expiration of their contracts. To what extent our source of revenue from this direction will be curtailed, it is impossible to say at present, but it is a factor we must bear in mind when making any financial plans for the future.

One year ago you adopted a new constitution; while there were not many radical changes, yet all that were made, after a year's trial, seem to have been made for the best. The one outstanding change, and the only one that I can really speak of from personal experience, is the creation of the office of President-Elect. This was a forward move in the right direction. I have attended nearly all of the meetings of the Executive Committee. I met several times with the Legislative and other committees, and were it not for this year's preparation and the various contacts made, I could be greatly handicapped in carrying on during the coming year. While the office of President of the Michigan State Medical Society is largely an honorary one, however, he has at this time the privilege of giving your House of Delegates some timely advice. It is your duty under the constitution to elect the officers of this Society. Most important as far as the welfare of the Society is concerned is the personnel of your council. The council through its Executive Committee is the real power in the State Society. They direct all of its many activities. Your secretary, editor, treasurer, are all directly under their supervision and control, and I consider it to be one of your outstanding actions to see that you elect only men of the highest standing and proven ability to fill these positions. "A chain is only as strong as its weakest link."

The Legislative Committee appointed by President Stone and acting under the instructions as outlined by your House of Delegates at its last Session, is to be especially commended for its thorough, painstaking and arduous labors. No Legislative Committee of our State Society has ever been so thorough in its work, so keen to sense the import of bills introduced, as to their bearing and relations to public health. Their recommendations and endeavors bore fruit in a resolution introduced in the House and later approved by the Senate, providing for the appointment of a committee of seven members of the Michigan State Legislature to study and adjust the present and proposed law concerning the practice of the Healing Art. This matter is gone into with much detail in the Committee's report and after a careful study of the same it is quite obvious that it is of the utmost importance that our present Legislative Committee should be continued in active service so that their advice and counsel may be available to the Joint Committee of the House and Senate.

We are well aware that much of the faulty medical legislation in the past was due to the fact the legislator received his information from cultists rather than from properly and authentically prepared data. And during the interim they will be better prepared to safeguard our interest in the next Session of the Legislature.

I was asked by my friend, Dr. Harrison H. Shoulders of Tennessee, to call your attention to the following resolutions which he introduced in the House of Delegates of the A. M. A. in Philadelphia last June.

Whereas, The federal government has inaugurated the policy of rendering medical and hospital benefits to veterans of the World War with non-service connected disabilities; and

Whereas, This policy was inaugurated over the opposition of the American Medical Association; and

Whereas, The policy now in force, if carried to its logical conclusion, involves the construction, the staffing, and the maintenance of a sufficient number of hospitals to accommodate the hospital needs of all the veterans of the World War; and

Whereas, Such a policy places the federal government in unnecessary and unjust competition with the civilian hospitals and the medical profession of the United States; and

Whereas, The present policy is of unequal benefit to veterans by reason of the fact that many disabled veterans cannot (for one reason or another) avail themselves of the benefit; therefore be it

Resolved, That the House of Delegates of the American Medical Association petition the Congress of the United States and the American Legion to abandon the policy of rendering hospital and medical benefits to veterans of the World War with non-service connected disability, and substitute therefor a plan of disability insurance benefits with the following provisions:

First, the creation of a Bureau of Disability insurance in the Veterans' Bureau as now constituted.

Second, the issuance of a disability insurance policy to

each veteran with a disability benefit clause, as follows:

(a) The payment of a weekly cash benefit during a period of total disability, and

(b) The payment of liberal hospital benefit sufficient to cover the hospital expenses of a veteran during a period of hospitalization for any disability. Such benefits to be paid to a veteran on satisfactory proof of total disability, and

(c) Such other provisions as are necessary for the proper administration of the act.

Be it further

Resolved, That the proper officers of this association be instructed to approach the officers of the American Legion with the view to securing the adoption of the policy above set out as a part of the legislative program of the American Legion, and be it further

Resolved, That each state medical association be requested to form a committee whose duty it will be to approach the state and local Legion posts throughout the country with a view to securing the adoption of this program by them.

This resolution elicited much favorable and but little unfavorable comment throughout the land. It is one involving the fundamental principles of government and has an especially vital economic factor in its bearing and relations to the Medical Profession.

I desire at this time to call to your attention an opportunity, yes, more than an opportunity, a duty, an obligation that you owe your fellow members. We have now in the State of Michigan a number of Associations and Foundations, whose various activities are directed towards the betterment of the social and health consideration of its people. We have been invited to coöperate with them in their undertakings. Our advice and help has been sought to further these ends. The door is open for a united profession to enter and direct. Let us be prepared and willing to assume this obligation.

Speaker Pyle: The President-Elect's Address will be referred to the Committee on Officers' Report.

Next we will listen to the annual report of the Council, by Dr. Corbus.

ANNUAL REPORT OF THE COUNCIL TO THE HOUSE OF DELEGATES

Gentlemen: The Council submits this as its annual report imparting a review of its activities and stewardship as well as incorporating therein certain comments and recommendations for your consideration.

Membership

A membership of 3,074 members with 449 delinquents is recorded by the following county Societies on Sept. 1, 1931.

County *Paid* *Delinquent*

September 18, 1931.

Membership—Michigan State Medical Society

County	Paid	Unpaid
Alpena	14	1
Antrim-Charlevoix-Emmet-Cheboygan	20	3
Barry	12	
Bay	61	4
Berrien	30	16
Branch	12	1
Calhoun	99	7
Cass	11	
Chippewa-Mackinac	15	1
Clinton	13	2
Delta	21	2
Dickinson-Iron	18	3
Eaton	16	2
Genesee	128	16
Gogebic	19	7
Grand Traverse-Leelanau	26	2
Gratiot-Isabella-Clare	26	
Hillsdale	20	
Houghton	42	1
Huron	8	1
Ingham	90	6
Ionia-Montcalm	34	3
Jackson	70	11
Kalamazoo	121	
Kent	188	29
Lapeer	24	1
Lenawee	33	3
Livingston	10	2
Luce	9	
Macomb	32	7
Manistee	14	
Marquette-Alger	33	3
Mason	10	2
Mecosta	20	
Menominee	12	
Midland	9	1
Monroe	31	5
Muskegon	67	1
Newaygo	10	
Oceana	7	
Oakland	88	26
O. M. C. O. R. O.	11	
Ontonagon	6	
Ottawa	27	1
Saginaw	69	5
Sanilac	6	
Schoolcraft	4	
Shiawassee	29	1
St. Clair	46	2
St. Joseph	14	3
Tri	18	
Tuscola	24	3
Washtenaw	108	7
	1885	191
Wayne	1189	256
	3,074	449

The Council has viewed with sympathetic concern the effect of the world-wide depression upon our members. The Council recognizes that those who are now delinquent by reason of financial reverses have in many instances, in years past, materially contributed toward causing our Society to attain its present position. Your Council feels it would be unjust to now suddenly terminate their affiliation. Therefore, the Council has directed its Secretary to extend Journal subscription and legal protection for the current year to those in arrears by advancing credit for one year in which to liquidate their financial indebtedness.

EXECUTIVE COMMITTEE

The Executive Committee has met monthly with the officers of the Society for the direction and furtherance of the Society's interests and business. The minutes of each meeting have been published in the Journal.

SPECIFIC ACTIVITIES

(A) On two occasions the Council has met with the Joint Committee on Public Health Education for conference and the formulation of a yearly program for this important educational committee.

The Council recommends that County Societies and members accord a more hearty and aggressive support to the work of this committee. The Joint Committee is an influential factor in moulding public opinion upon all matters of health and accomplishes much to prevent pernicious practices as well as to guide the public.

An arrangement is now in effect whereby a health column is provided for every newspaper in the state that applies for the service.

The lectures given to high school students go far toward building sound public opinion in regard to public health and scientific medicine.

The Joint Committee has arranged with state educators to include a comprehensive health course in our public schools.

Delegates are referred to the Minutes of the Joint Committee as published in the Journal.

(B) Desirous of establishing closer contacts and helpful assistance to the several Foundations operating in the state and with the State Department of Health in establishing and operating County Health Units, the Council held a special meeting on May 19, 1931. To this meeting there were invited representatives from the Michigan Children's Fund, Kellogg Fund, Michigan Tuberculosis Society, State Department of Health and the State Sanatorium Commission. The discussion engaged in was published in the July Journal.

Subsequent to this discussion a questionnaire was

sent to County Societies and members. In a supplemental report the Council will transmit to the House of Delegates its findings and comments for your consideration.

The Children's Fund and the Anti-Tuberculosis Society, desirous of maintaining a close liason with the profession and coöperate with our Society, extended invitations to appoint representatives upon their advisory boards. Responding to this invitation the Council designated its Chairman to so represent our Society.

UNIVERSITY HOSPITAL ANALYSIS OF ADMISSION STATISTICS

	Monthly Average 9 mo.—May, 1926, through Jan., 1927	Monthly Average 12 Mo.—July, 1929, through June, 1930	Monthly Average 6 Mo.—July, 1930, through Dec., 1930	Increase Column 3 over Column 1	Decrease Column 3 under Column 1
Group I					
State Patients: Those patients hospitalized by the Probate Court under various state acts. Act 267 provides for the hospitalization of adults. Act 274 provides for the hospitalization of children. The other acts provide for the hospitalization of transfers from state institutions and other small indigent groups. Acts 236 provides for the hospitalization of crippled children. However, most of the probate judges convey crippled children to the Hospital under Act 274. The large increase in admissions under Act 274 is largely due to the increased number of crippled children treated.					
Act 267	504	418	468		7%
Act 274	276	498	647	134%	
Act 281		3	3		
Act 115		3	4		
Act 236		5	13		
Act 274A		2	6		
Group total	780	929	1141		
Group II					
County Patients: Those patients who are sent by the Superintendent of Poor and whose hospital expenses are guaranteed by the county in which the patient resides. The increase in this group offsets the decrease in 267 patients under Group I. Certain counties have sent patients under authorization of the Superintendent of Poor rather than as formerly by court order under Act 267.					
County patients	14	93	144	928%	
Group III					
Students in attendance at the University of Michigan or the Michigan State Normal College of Ypsilanti.	2	18	5	150%	
Group IV					
Persons bringing letters from their regular medical attendants, recommending their admission.					
With letter	97	95	69		29%
With Doctor	31	15	13		58%
Verbal refer	33	35	45	36%	
Group total	161	145	127		
Group V					
Persons who can truthfully sign an affidavit that they are unable to pay the usual minimum fee charged by the Medical Profession outside the hospital.					
Affidavit	289	225	199		31%
Private guarantees	20	11	5		75%
Group total	309	236	204		
Group VI					
Persons who are able to pay in addition to their hospital charges fees for Professional Services may be admitted to the Services of Medicine, Surgery or X-ray. The decrease in this group is particularly satisfactory.					
B	64	29	21		67%
C	4	2	2		50%
D	0	0	0		
Group total	68	31	23		
Group VII					
Doctors and Doctors' dependents	10	6	4		60%
Nurses, stdt. nurses, employees	56	52	40		29%
Group total	66	58	44		
Group VIII					
Emergency	67	64	58		13%
Guests	4	10	6	50%	
Group total	71	74	64		

RECAPITULATION

	Monthly Average 9 mo.—May, 1926, through Jan., 1927	Monthly Average 12 Mo.—July, 1929, through June, 1930	Monthly Average 6 Mo.—July, 1930, through Dec., 1930	Increase Column 3 over Column 1	Decrease Column 3 under Column 1
Group I	780	929	1141	48%	
Groups II and III	16	111	149	831%	
Group IV	161	145	127		22%
Group V	309	236	204		34%
Group VI	68	31	23		66%
Group VII	66	58	44		33%
Group VIII	71	74	64		10%
Total	1471	1584	1752	19%	

POSTGRADUATE HOSPITAL

The Council in conjunction with the Department of Post Graduate Medicine of the University has continued to make available opportunities for postgraduate work and instruction. Several course clinics have been conducted in Detroit and Ann Arbor. Regional programs have been arranged.

The Council recognizes this to be an outstanding responsibility. It purposes to press forward as rapidly as possible to provide postgraduate instruction opportunities of the highest type and the widest range for our members in Michigan.

The Council feels that the future relationships of the profession and the public will be materially guided and governed by the type of service that we render and make available. The public does and will continue to demand that there be made available to them that which present day scientific medicine possesses for their physical well being. As has been said, when we individually and as a professional group deliver a high type of service we shall go far in circumventing the institution of undesirable plans of medical service groups and also negative the representations that are attempted by irregular practitioners.

With your approval the Council purposes to undertake as rapid an expansion of postgraduate instruction opportunities as conditions warrant and means are available.

MEDICO-LEGAL

The Council deeply regrets to report the death of Dr. Frank B. Tibbals, who for so many years so efficiently directed the work of our Medico-Legal Committee.

As his successor, Dr. Wm. J. Stapleton, Jr., has been appointed.

During the year an increasing demand has been made for legal defense. The Council takes pleasure in noting the effective work of the Committee. Assurance is given that the work of the Committee will be continued to full functioning efficiency and that the protection accorded may be confidently relied upon.

COUNTY SOCIETY ACTIVITIES

On the whole our county units are in a healthful condition. While a few are and always will be somewhat dormant, aggressive active work is in evidence in the majority of the local societies.

The Council points out anew that the County Society is the profession's expression of unity of purpose and leadership in all matters pertaining to health and medical practice. As such it merits the cohesive loyal support of every member. Cause it to be a factor in your county by exercising and evidencing wholesome influences. Participate and contribute to the community movements that are undertaken or in existence. Submerge individual opinions outside of your meetings. Endorse and stand back

of the policies and principles enunciated by your County Society. Such unity will achieve. Such cohesiveness will accomplish desired ends and solve local problems. Dissension or controversial opinions negative efforts and reflect harmfully upon you as an individual and your society as a group. Your County Society is the spokesman for your profession in your county and to make it influential the individual must not be a public dissenter. A militant, united, ambitious organization that has the undivided loyalty of all reputable physicians will insure the realization of our ideals and secure our economic status. Defending the public against the destructive influences of quackery and fanciful theories, maintaining traditions of our profession, and exhibiting scientific advancement will enable us to go through this period of readjustments with our status in the social world maintained in satisfying degree.

WOMEN'S AUXILIARIES

Your Council recognizes the helpful activities that may result from a well directed program executed by state and county auxiliaries. We endorse and recommend these sister organizations. Their principal activity should consist of imparting to their community the truths of scientific medicine and its value in conserving and enhancing physical well being. Auxiliaries can exercise a wholesome influence in molding public opinion and in resisting the endeavors of those who promulgate fanciful theories or who attempt the organization and sponsorship of unrecognized health movements.

The Council recommends that County Societies foster the organization of a local auxiliary and lend all possible assistance in furthering its activities.

ANNUAL MEETING

Requirements for our annual meeting are exacting. Only a few cities in the state are able to meet our needs. The Council does urge that careful consideration be given to the available facilities ere annual meeting places are designated.

The Council recommends a discussion, and, if agreeable, definite action on the question of limiting section meetings to one day of two or possibly three sessions and devoting the second day to a general meeting with a program of case demonstrations and half hour discussions given by a selected list of recognized clinicians. The Council solicits your instruction as to so changing our scientific program.

LEGISLATION

The Council has endeavored to lend every possible aid to the legislative committee. We recognize with all appreciation the time contributed by the members of this committee. At great personal sacrifice they gave of their time and diligently sought to exercise honorable influences to guide legislation. The society is deeply indebted to these members, who merit our grateful thanks.

It is quite apparent that authoritative recommendations based upon educational and scientific experiences, economic factors and present day health essentials are given scant if any consideration by legislators. Our society has assumed a definite policy and in specific instances we assume a definite position in legislative affairs. It is a matter of serious concern and deep regret that when our position is defined it is often repudiated by individual members. Our quests are thereby defeated and our influence is negatived.

The House of Delegates and the Council with the Legislative Committee formulate our legislative program and diligently strive to attain legislation that is constructive and to the health welfare of the people. When such a program is agreed upon it is most embarrassing for individuals or groups to record dissent and issue and utter statements that are controversial. These minority opinions furnish arguments that are used to defeat bills and aid in passing untoward laws.

The Council recommends a continuation of our legislative policy. We urge a more intensive county society participation and support. We further recommend extended study of the facts involved in enactments sought before an individual or group express opinions. Our successs in aiding desirable legislation and in defeating adverse bills depends upon a unity.

CORPORATION PRACTICE

In July of this year the problem of corporation and contract practice presented itself. A Michigan corporation, with lay sponsorship, was organized. The local society was requested to conduct an investigation and present facts. Legal opinions are being obtained.

The Council views the situation with grave concern. It perceives an intolerable condition if corporations are permitted to undertake medical practice.

With your approval the Council purposes to intensively investigate and survey the principles and facts involved, and, if judgment indicates, to resort to legal methods to terminate the establishment of such corporations for medical practice.

Solution of the problem would be easy did doctors decline to become the paid employees of corporations. Unfortunately there are those who ignore the principles involved and sell their services to these corporations, enabling the stockholders to receive financial profit.

The Council bespeaks support in its efforts to solve this situation.

THE JOURNAL

Our official publication continues to be a source of pride. The Council and Editor diligently strive to cause it to be helpful to every member in his practice. It is also a medium for imparting to our members dependable information related to scientific progress and organizational activities. The Council recommends to the members that they acquire a purpose to devote more time to the study of its pages and to daily utilize the information that is contained in each issue.

HONORARY MEMBERS

The Council recommends the following amendment to the Constitution:

Article III, Section 1. In second line after honorary members insert the words "Members Emeritus," and add the following new section as section 6 to Article III.

> "Section 6: Emeritus Members: Any member in good standing and of good repute who has maintained an active county society affiliation for twenty-five years and has attained the age of 70 shall automatically become a Member Emeritus. Members Emeritus shall hold all the privileges of membership, including the Journal, and shall be relieved of paying the annual dues of this Society."

The Council is of the opinion that our honorary members should be distinguished members of the profession as defined in Section three. Second, that members who have maintained affiliation for twenty-five years and are of the age of 70 should have provision made for relieving them from the payment of dues and still continue to retain all the privileges of active membership.

CLINICS AND CARE OF INDIGENTS

Your Council has assumed the position that it is the responsibility and duty of the county society to

solve its communal problems as related to clinics and care of indigents. Conditions in one county are different from those in another county, precluding a uniformity of policy. Your Council in consequence has not sought to initiate any general program. It stands ever ready to aid in an advisory capacity.

Your Council does urge that County Societies interest themselves in this economic problem. It is recommended that selected representatives confer with local officials and organizations for the purpose of agreeing upon a plan of action and supervision of clinics and the rendering of medical and hospital care to the needy and indigent.

ILLEGAL PRACTICES

It is estimated that there are seven hundred violators of the medical laws of this state. Many licensed and unlicensed drugless practitioners and separate cults daily violate the law. The Registration Board and our Secretary receive weekly numerous complaints and doctors often inquire as to why these violations continue and why steps are not taken to terminate them.

Enforcement of the laws is delegated to the County prosecutor, sheriff and police officers. No authority or funds are provided to any Board or department to conduct investigations and institute prosecutions. Those charged with enforcement fail to discharge their duty.

In certain cities and localities health department investigators and the Board of Registration have been able by fortunate circumstances to secure warrants and obtain verdicts of guilt. Lack of funds and authority prohibits a sustained movement of enforcement.

The Council holds that this Society should not undertake police power duties. We can and will exercise influence to induce enforcement of the law, but to undertake investigations, securing witnesses and requesting warrants is not a Society function.

Respectfully submitted,

B. R. Corbus,
Chairman.

You will remember that some years ago a Committee headed by Dr. Richard Smith was appointed to make a survey of the hospitals in the state, and that a very splendid and voluminous report resulted with recommendations which we considered to be of great importance. These recommendations had to do with the University Hospital, very largely. Certain methods of the University Hospital were questioned by some of our members; certain policies and attitudes were severely criticized by some of our members and commented upon by the Committee.

It gives me great pleasure to be able to report to you that there seems every reason to believe that there has been a marked change in the policy of the Governing Board of the University Hospital. The attitude that the hospital was justified in coming into competition with the men of the state has given way, so we have every reason to believe, to an attitude which is ours, that the University Hospital has two important functions. One is to take care of the true indigents of the states, and the other, that it shall have sufficient material to satisfactorily give instruction to the students there.

There were most important reasons why the report of the Committee could not satisfactorily be brought before the president and the faculty and the Board of Regents immediately upon the offering of this report to this House of Delegates, but in the early part of this year we had a meeting with the President of the University, the so-called Dean's Committee of the University School, and some other men whom the President invited to come in. I said we had a meeting. The State Society was represented by the Hospital Committee and your Chairman.

I have a letter from President Ruthven which reads:

"Dear Dr. Corbus:

"Following a meeting of the Committee on Hospitals of the State Medical Society and University officials in February last, I asked for a report on the hospital administration, which would include the several points discussed by the Committee. This I am inclosing.

"I am very glad to be able to say that a consistent effort has been made to comply with the recommendations of your Committee and the appended statistics will demonstrate that results have been attained. You will note a very marked reduction in certain groups of patients admitted to the University Hospital. The verbal-referrer patients have been under consideration of the faculty and recommendations for certain changes have been made. These are now being studied by Regent Smith and in due time will come to the administration for consideration.

"It was a great pleasure for me to meet with your group. Your understanding of the University's problems, together with your patient and generous approach to all problems involved, lead me to look forward hopefully to a solution satisfactory to all concerned."

Enclosed with that was a report from Dr. Haines, which I will discuss very briefly. You will remember that the hospital patients are divided into groups, of which the largest group consists of state patients, patients hospitalized by the Probate Court under various Acts which have reference to the hospitalization of crippled children, the hospitalization of children, the hospitalization of adults, and so on. This is a group which is the largest group with which we as a medical society can have nothing to do. It is governed by a state law and is in no way under the control of the University Hospital authorities.

As is to be expected, the monthly average of that group in the years since 1926 has increased enormously, and more particularly recently.

There is a group of patients which are sent by the Superintendent of the Poor, which is likewise increasing at a tremendous rate. We have nothing to do with that, nor do we have any concern with the students who receive service in the hospital.

However, we do have a distinct concern about some of these other groups, and most particularly with Group 4, persons bringing letter from their regular medical attendants recommending their admission. We have a concern with those who come with a verbal reference from their doctor. There has been a slight decrease in the monthly average, taking the years 1926-'27, 1929-'30, and the six months from July through December in 1930; there has been a decrease from 161 in the first period to 145 in the second period, and to 127 now.

In Group 5, those persons who can truthfully sign an affidavit that they are unable to pay the usual minimum fee, there has been a distinctive decrease, from 309 in 1926-'27 to 236 in 1929-'30, and 204 in the last six months of 1930.

We have been peculiarly aggressive in connection with the persons able to pay, in addition to hospital charges, fees for service, and the decrease in this group is particularly satisfactory. From 31 per month at the time our Committee was appointed, for the twelve months from July to June, 1929-'30, it has decreased to 23 in the last six months of last year.

There has been, then, a distinct decrease in these groups in which we are particularly interested, which, expressed in figures, is 22 per cent for Group 4, 34 per cent in Group 5, and 66 per cent in Group 6.

We are gratified that the University at this time seems to be willing to meet our criticisms and accept them as of value.

SUPPLEMENTAL REPORT OF THE COUNCIL IN REGARD TO ORGANIZATIONAL HEALTH ACTIVITIES

To the House of Delegates:

Michigan is most fortunate in having, among her citizens, philanthropists and humanitarians who have, through foundations, set aside most adequate funds for the improvement of the health of the people through definite health and educational activities. In the past year these foundations, together with other organizations with a like objective, have been more active than in any previous year.

It was felt by the Executive Committee that a conference of the representatives of these various activities, with the Council, would be of distinct benefit. Accordingly a special conference of representatives from the Department of Health, the Children's Fund of Michigan, the Kellogg Foundation, the Anti-tuberculosis Society, and the State Sanitarium Commission, was called to meet with the Council in Detroit in May. The stenographic transactions of the conference as published in the July Journal have been commented upon the freely copied by many journals throughout the country. The free discussion at this conference was not only valuable to your Council in an educational way, but opened the door for a clearance of misunderstandings in regard to both present activities and future objectives. The Council recognizes that there is room and need for these agencies. Your Council recognizes the need for a harmonious relationship between the profession and these agencies, and the necessity for mutual coöperation if the best results are to be obtained.

The Council is aware that it is humanly impossible to prevent errors in judgment and occasional errors in action, by individuals in the conduct of a work which so closely touches the family and the family doctor. The Council notes, with appreciation, the attitude assumed by these health agencies, and their desire to administer their work in unity and harmony with the profession. In our contacts with them we have found that, where instances have occurred justifying criticism, the organizations have been most prompt to correct the situation and have received our recommendations cordially and appreciatively. There are certain general principles and policies, largely of a distinctly professional nature, which are fundamental and to which these health agencies must conform if there is to be cooperation between them and the medical profession. We sincerely believe that it is the most sincere desire of these agencies to conform to these principles, and, as indicative of thim, the Council has now, by invitation, a representative upon the boards of the Children's Fund, the Crippled Children's Commission and the Anti-tuberculosis Society. We believe that in the future opportunity will be given for an expression of opinion as plans of extension and new projects are entertained, and that through this contact objectionable features and friction will be largely eliminated.

Following the special meeting in May, the Council felt that it would be wise to obtain expressions of opinion, recommendations and criticisms from individual members in counties in which public health organizations were active. The secretary was directed to send out a questionnaire. Sufficient replies have not been received to justify a report. The Council appreciates that these activities have not, in general, been operating for a sufficient length of time to make possible a satisfactory discussion or to formulate a definite position. The value and justification of such a questionnaire rests largely in the opportunity it gives for the expression of opinion and criticisms of certain of these activities by those members of the profession in the field and in close contact with the movement. It further gives your officers the opportunity to present these criticisms in a direct way to the organizations involved whose directing heads are as anxious to avoid all unnecessary friction as we are. The Council will not be the least hesitant to criticize and oppose policies not in harmony with the professional ethics or the best interests of the profession. On the other hand, we have a profound interest in the health of the people of the state and should be, as a society, not only anxious to coöperate, but willing as individuals to make sacrifices to the cause, if, after intelligent study, such sacrifices are deemed necessary.

The Council recommends that health officers, most of whom are members of their county and state societies, keep in close contact with their County Society. When emergencies arise, when new procedures are contemplated, we hope that the health officers will present their problems and plans to their County Society and enlist its support. Health officers in their educational activities may well enlist the support and assistance of the county society's committee on Public Health Education, and the assistance obtainable from the state Joint Committee on Public Health Education. The Council urges that health officers maintain a close relationship with the local profession in all of their administrative activities. They should earnestly realize, as has been well said and recognized by national agencies and authorities, that the success and value of all health movements and work are dependent for their greater success upon the coöperation of the practicing physician. The value of this coöperation has never been so clearly shown in this state as in this present campaign against the prevailing poliomyelitis. The poliomyelitis committee, composed of representatives of the State Department of Health, the Michigan State Medical Society, the Couzens Fund, the Kellogg Foundation and the University of Michigan, initiates a group activity in public health work which might well be extended beyond the necessities of the present emergency. We are told that in no previous epidemic has there been such willing and intelligent coöperation by the profession generally; nor such an alertness to the situation as is being shown throughout the state by the individual doctor.

Respectfully submitted,

B. R. Corbus,
Chairman.

Speaker Pyle: The report of the Council will be referred to the Committee on Council Reports.

At this time the chair would like to appoint the following committees:

Business Committee: Drs. Penberthy of Wayne, Chairman; McCutcheon of Cass; Wenger of Kent; Holdship of Huron; Sladek of Grand Traverse-Leelanau.

Committee on Officers' Reports: Drs. Gorsline of Calhoun, Chairman; Hirschman of Wayne; Riley of Jackson; Keyport of Otsego, Montmorency, Crawford, Oscoda, Roscommon, Ogemaw.

Committee on Council Reports: Drs. Curry of Genesee, Chairman; Luce of Wayne; Langford of Washtenaw; McKean of Wayne; Lohr of Saginaw.

You will note on page eight of your official program, item 10 calls for the election of a nominating committee. You will

recall that was done away with by revision of our Constitution. All nominations will be made from the floor this evening at the regular election.

The place of the next annual session will likewise be decided upon tonight.

We will now listen to the reports of the various committees. The first report is for the Civic and Industrial Relations committee.

Dr. H. S. Collisi: I am not a delegate and I am requesting the privilege of the floor to submit the report of this Committee. [*See* September Journal.]

There is very little to add to the report, which is printed on page 43 of the official program. I would like to add just a little bit which has happened since this report was printed.

As you know, the insurance question, which the Committee has had under consideration for the last three or four years, has eventually come to a head in that a resolution was presented to the House of Delegates of the American Medical Association in Philadelphia in June and was referred to the Bureau of Medical Economics, of which Dr. Leland is director. This Bureau through Dr. Leland has had a conference with the Chairman of the Committee, and they are now engaged in making a national survey of this question. No report has been issued by them up to the present time, but I might say that the action taken by the Michigan Association has met with favor in a number of other states. The state of Washington has adopted the resolutions as they were presented to the American Medical Association.

We are also finding that a number of the insurance companies are beginning to come to the request and are paying the fee. However, in conclusion, I believe that there is very little more that the Michigan Committee can do than await the report of the Bureau of Medical Economics of the American Medical Association at New Orleans. However, until that time, I would like to request that all of the Michigan members stand by their own resolutions as passed.

Speaker Pyle: Does anyone wish to take any action on this report?

Dr. Wenger (Kent): I make a motion that the report of the Committee on Civic and Industrial Relations be accepted.

The motion was seconded by Gorsline of Calhoun, put to a vote and carried.

Speaker Pyle: We will next receive the report of the Cancer Committee; Dr. Dutchess of Wayne, Chairman. [*See* September Journal.]

Dr. Dutchess (Wayne): The report of our Committee has already been published in the Journal. Some of you may have read it, but it is very brief so I will read it now.

[Dr. Dutchess read the report of the Cancer Committee, printed in the Journal, at the conclusion of which he said:]

I may say that we had our third meeting last night.

I would also like to call your attention to our exhibit in the scientific exhibit, where the result of the survey of the state facilities is graphically represented in a series of state maps. In addition to the results of this survey, we have on exhibit some educational and informational material in the way of some charts provided by the state and county Health Boards, and a supply of posters and educational pamphlets supplied by the American Society for the Control of Cancer.

Mr. Speaker, I would like to report that the terms of two of our Committee members have just expired: Dr. Charles Kennedy and Dr. Carl Weller. These men, I may say, have been faithful workers and distinct assets to the Committee.

Thank you.

Speaker Pyle: Do you wish to accept this report, gentlemen?

Dr. Gorsline (Calhoun): I move the report of the Cancer Committee be accepted.

The motion was seconded, put to a vote and carried.

Speaker Pyle: At this time, I am extremely gratified to state that at the time I appointed this Committee last year, it seemed to be agreed by different men of the assembly, and different men I met, that this was an efficient committee, and I believe it is the chair's prerogative to appoint men in their place or to make a reappointment, so at this time I should like to reappoint Dr. Kennedy and Dr. Weller. This Committee is rather new, having worked just a year, and I believe it is to the good of the cause that they continue.

We will next receive the report of the delegate to the American Medical Association, Dr. Luce of Wayne.

Dr. Luce (Wayne): Mr. Chairman, Members of the House of Delegates: Mr. Chairman, I would like to request before giving this report that the courtesy that is

extended to patrons of baseball be extended to the delegates, and that they be allowed, as an orthopedic measure, to stretch.

Five minute recess.

REPORT OF DELEGATES TO AMERICAN MEDICAL ASSOCIATION

Mr. Speaker, Members of the House of Delegates:

The House of Delegates of the American Medical Association met at Philadelphia, June 8, 9, 10 and 11, 1931.

The State of Michigan was represented by Dr. F. C. Warnshuis, Speaker of the House, Dr. J. D. Book of Grandville, Dr. C. S. Gorsline of Battle Creek, Dr. Carl F. Moll of Flint and Dr. H. A. Luce of Detroit.

On the first day of the meeting, the House unanimously voted the late Dr. A. W. Hornbogen of Marquette the courtesy of the floor, which was a signal honor and, in view of the unfortunate termination of his life recently, a most happy remembrance for the members.

On the second day, after the continued absence of Dr. W. J. Cassidy of Detroit, Dr. Hornbogen was seated as a duly qualified delegate from the state of Michigan. In passing, it might here be stated that every delegate from Michigan attended from beginning to end each and every session of the House.

After addresses by the Speaker, President William Gerry Morgan, and the usual amount of congratulatory messages from notables, the House settled down to business.

A resolution on the name of the Committee on Cost of Medical Care was introduced with the recommendation that the Committee be requested to change the name to "the Committee on Illness" or "the Care and Prevention of Illness." This matter was presented by the state of California and referred to the Reference Committee on Legislation and Public Relations, from which committee an adverse report was rendered and adopted.

A resolution on Appointment of Commission on Qualifications of Specialists was presented by Dr. C. F. Moll of Michigan, was recommended by the Reference Committee and is to be submitted to the House of Delegates at the next annual meeting.

A resolution presented by Dr. J. D. Book of Michigan, at the request of the Civic and Industrial Relations Committee of the State of Michigan, relative to charging of a fee to insurance companies for each and final proof of claim was approved by the House of Delegates and referred to the Bureau of Medical Economics. Dr. R. S. Leland Director.

A resolution requesting that the National, State and County Woman's Auxiliaries make special effort to have the A. M. A. Health magazine, Hygeia, placed in all schools, both rural and urban, was introduced by Delegate Gorsline of Michigan. This was adopted and referred to the Liaison Committee of the A. M. A. and Woman's Auxiliary.

A resolution by Dr. I. A. Abt, Section on Diseases of Children, to change the name to Section on Pediatrics was introduced; recommended by the Reference Committee and passed by the House.

A resolution for Dr. H. H. Shoulders, Tennessee, relative to the Federal Government's policy of rendering medical and hospital benefits to veterans of the World War was given serious thought and provoked much discussion.

The gist of the resolution was that the government should pay a cash benefit to the veteran which he could spend where he saw fit, rather than provide at government expense for his treatment.

The resolution was approved by the Reference Committee and passed by the House.

The transactions of the House of Delegates are too voluminous for a full report, but should be read by every member of this organization.

New Orleans was approved by the House as the meeting place for the annual meeting for 1932.

Dr. E. H. Cary of Dallas, Texas, was elected to the office of President-Elect.

The House of Delegates approved so highly of the work of Dr. Olin West as Secretary of the American Medical Association and Dr. F. C. Warnshuis as Speaker of the House that their reelection was unanimous.

The House concluded its work on schedule time and adjourned sine die at 3:10 P. M., June 11, 1931.

J. D. Brook
Carl F. Moll
C. S. Gorsline
Henry A. Luce

Speaker Pyle: The chair erred in asking for a discussion on these reports. The Committee reports will be referred to the proper Committees.

We will now receive the report of the Legislative Committee, Dr. John Sundwall, Chairman.

LEGISLATIVE COMMITTEE

Mr. Chairman and Members of the House of Delegates: A rather extensive report of the Legislative Committee is published, as you are aware, in the September issue of the Journal, and also in your official program.

I am going to take the liberty, if I may, Mr. Chairman, of just adding a few comments relative to the work and aims of this Committee, which we did not deem wise to publish, or I might put it in another way, not essential to publish.

In the first place, I want to pay my tribute to the members of our Committee, to our dynamic secretary, Dr. Whittaker of Detroit, to our fearless member, Dr. Robb of Detroit, to the very splendid work of our sagacious member at Lansing, Dr. Earl Carr, who was always on hand to render the very highest type of service, and then again, our tribute to Dr. Jackson, wise and sagacious leader, who has devoted so many years to the Welfare of the Michigan State Medical Society.

The Committee worked hard during the very prolonged session of the Legislature. It met practically every Saturday night at Lansing, worked about all night, and usually reached home at daybreak. The Committee attempted to be as constructive as possible; that is, it wanted to be of genuine help in the review and consideration of all legislation which had to do with the health of the people of Michigan and with the welfare of the medical profession. You will note from the review in this particular report that some sixty-one bills were earnestly considered, not only by the Committee, but in association with others concerned. The Committee made every effort to acquaint the various county medical societies with its work, and so some seventeen different societies were visited during the meeting of the Legislature.

The Committee wants to take this opportunity of expressing their thanks and appreciation to many who met with the Committee, to the Chairman of your Council, Dr. Corbus, and the other members of the Council, to the members of the Executive Committee, and to the members of the various county medical societies. In fact, the Committee meetings were, in a large measure, public meetings in that all concerned were invited to attend.

The Committee has discussed a number of things.

It is very mindful, indeed, that the medical profession of the United States, as well as the medical profession of Michigan, has reached a great crisis so far as the public is concerned. It appreciates the fact that within the next two or three years the medical profession of the state of Michigan, as well as of the United States, will have to do some genuine constructive and comprehensive statesmanship. It realizes that heretofore the medical profession has not sought or has not maintained the closest type of, let us say, coöperation and leadership, so far as the public is concerned, and in relation to the many agencies which we find interested in our public health measures.

It therefore feels, I think, that the functions of the Legislative Committee should be increased, rather than limited purely to legislation. Personally, I feel that we have reached the time when we ought to abolish the term Legislative Committee, and substitute in the place of it some such term as Public Relations, and that this Committee be continued—it has got to be continued—and that it be progressive, that it make every effort during the two years from now until the meeting of the next Legislature, in placing these various problems of public health and the relation of the medical profession to public health, before the people of the state.

You will find in this report that we earnestly advocate that this whole problem of licensure be made a public educational problem. We know from all past experiences, so far as legislative committees are concerned, that we have made very little progress in so far as medical practice Acts are concerned, largely because we have maintained, that is in our practice in the past, that this matter of legislation is one which is the concern of the medical profession alone.

Effective medical licensure should be just as much a problem of education, just as much a problem of all health agencies in the state, just as much a problem of the public at large, as it is of the medical profession itself. The Committee, therefore, recommends that you give consideration to the problem of this Legislative Committee not to restrict it wholly to medical legislation as it was restricted according to your actions of a year ago, but that you give it all the power and functions of bringing this whole problem of medical legislation, with all that it involves, before all of the people of the state.

I do not want to take any more of your time, other than to repeat the statement that I have made, and which has been intimated, that during the next two or three years at least, in view of the great changes that are going on at the present time, the medical profession of the state of Michigan must certainly indulge in the most extensive and intensive statesmanship, not only for its own welfare, but for the welfare of the people of the state.

I thank you.

Speaker Pyle: Are there any other reports?

Secretary Warnshuis: Mr. Speaker, I have two communications to present at this time. One is an invitation from the Kalamazoo Academy of Medicine to the State Medical Society to meet there next year, supported by the communications from the Association of Commerce and several other business organizations in Kalamazoo.

The second communication is from Dr. Frank T. McCormich of Detroit, acting in behalf of the Michigan Association of Industrial Surgeons, in which he presents to the House of Delegates a Code of Ethics that has been adopted and approved by the Wayne County Medical Society, and also the Association of Industrial Physicians and Surgeons, and they make the request to this House that the House of Delegates of the Michigan State Medical Society also adopt that Code.

Speaker Pyle: I will refer those to the Business Committee.

Is there anything to come up under resolutions and new business?

RESOLUTIONS

Dr. Hasley (Wayne): Mr. Speaker, Members of the House of Delegates: I am pinch-hitting again for Dr. Stapleton. This is my second opportunity this morning to pinch-hit for him. I am going to take only a few minutes to tell about a little of the work he has been doing in connection with the Wayne County Society. He is the Chairman of the Public Health Education Committee.

Now, everybody knows the value of advertising, and probably a good many of us could tell stories about a dollar's worth of goods and ten dollars' worth of advertising. We have seen drug stores grow up under our eyes, but the medical profession, I think, has failed to recognize the advantages of advertising.

Now, nothing is new, but we do have a new method of advertising legitimately and not being condemned, and that is through the radio work. Consequently, Dr. Stapleton has realized this and he has conducted a series of radio talks which are given, not as talks from the individual doctor, but as coming under the auspices of the Wayne County Medical Society. That has been done now for a year and the big stations like WWJ are glad to give their time and to announce that we have a celebrated physician from Wayne County talking on such and such a subject.

Our neighboring county, Oakland County, with its towns, Royal Oak and Pontiac, have seen the light, and they are broadcasting over EXL three times a week.

Dr. Stapleton is very anxious to have the following resolution presented to this House, so I will read it:

"Whereas, the Michigan State Medical Society is the only democratic medical organization in the state

representing more than 5,500 physicians; and

"Whereas, the Michigan State Medical Society is best qualified to inform the public concerning the prevention and cure of disease and to issue opinions on public policies affecting public health; and

"Whereas, the radio appears to be a most potent agent in the dissemination of information to the public; therefore, be it

"*Resolved,* that the House of Delegates of the Michigan State Medical Society authorize the Public Health Education Committee to institute and to conduct a state-wide radio campaign to broadcast popular medical subjects and to inform the public regarding the aims and activities of the State Society, its component county units, and the work of the individual members; and be it further

"Resolved, that a sub-committee of the Public Health Education Committee be founded in each county and district to aid in the broadcasting and to negotiate with radio stations for the donation of time sufficient to bring this important health message to the public."

I am sure that the radio stations in the respective communities will be glad to do this.

Speaker Pyle: This resolution will be referred to our Business Committee for further consideration during the day.

Is there any other business?

Dr. Brook (Kent): Gentlemen of the House of Delegates: We are operating today in a rather peculiar position, it seems to me. A year ago, you remember, we had quite a hullabaloo about our revisions of the Constitution and By-Laws, and Dr. Curtis was involved in that. Today we are here and we have been asked by the Chairman of our Council to alter some of the provisions of our Constitution and By-Laws. I don't suppose we will have any objection to this particular thing, but I daresay nobody in the room, outside of Dr. Sundwall, who has the October Journal, has a copy of the Constitution and By-Laws.

Dr. Curtis (Wayne): I have my Journal, too.

Dr. Brook (Kent): And that is what every delegate will have to do, if he wants to know what his privileges and rights are under the Constitution: he will have to carry his Journal along with him when he comes to this meeting.

I think it is the prerogative of every delegate to know what is in the Constitution and what his rights are. To that end, Mr. Speaker, I move the Council be instructed by this House to make provision for the printing of the Constitution and By-Laws in the annual handbook which the delegates receive.

The motion was seconded, put to a vote and carried.

Speaker Pyle: Is there any other unfinished business?

Dr. Hirschmann (Wayne): Mr. Speaker and Members of the House: I want to read a resolution which was transmitted by mail to the Council for consideration at this time. This was adopted by the Council of Wayne County Medical Society Monday, May 4, 1931, and transmitted for action here.

Dr. Hirschmann read the resolution pertaining to the Volstead Act.

Speaker House: What do you want to do with this resolution?

Dr. Hirschmann (Wayne): I move we request from the Council a report for action by the House of Delegates.

Dr. Traynor (Mecosta): I would like to ask the Secretary how the A. M. A. takes care of such problems?

Secretary Warnshuis: This communication was duly received and duly transmitted to the Council and considered last evening, and by vote of the Council the Secretary was instructed not to transmit the question to the House of Delegates; that if it came up, the Council would adopt the same policy adopted by the House of Delegates of the American Medical Association, and that is that all discussions of the question of liquor or the physician's right to prescribe liquor, first be referred to the Board of Trustees of the A. M. A., and if they deem wise they shall transmit to the House.

Speaker Pyle: Does that dispose of your resolution as you want it disposed of, Dr. Hirschmann?

Dr. Hirschmann (Wayne): It certainly disposes of it.

Speaker Pyle: You have a right to introduce your motion. If you wish to make a motion, and it is supported, that will bring it before the assembly.

Dr. Hirschmann (Wayne): I introduced this resolution by request. I realize perfectly well that any discussion in a meeting of this kind on the subject of the prescribing of liquor is very apt to be given undue, unwarranted, undesirable publicity, and, therefore, I agree that the matter is probably better taken care of either by the Council, or, if the House of Delegates so wish, in executive session.

Speaker Pyle: Is there any further discussion?

Dr. Whittaker, you may have the floor at this time.

Dr. Whittaker of Wayne read a resolution relative to a survey of other public health organizations and their work.

RESOLUTION

Inasmuch as there is evidence to show that for some time, medical service to the public has not kept pace with medical knowledge, and as during this same period, the rôle of practitioner of medicine has become increasingly difficult. And as there is evidence to show that in the United States the practice of medicine is regarded by legislative bodies, by taxation authorities, and by courts of Justice, as a business organization with the same responsibilities as other professions, trades and business groups, and as also with this change in attitude toward the Medical Profession has come no change in the expectation on the part of the public that the profession will change in its attitude toward the indigent ill, that is, that the burden will be carried by the profession as a group, although there is no other civic responsibility that is not carried by the public in proportion to each individual's economic ability to contribute. And as two social and economic changes have recently contributed to the acuteness of the situation, namely,—first, the business de-

pression, which has greatly increased the percentage of the population which is unable to pay for medical care, thus increasing the charity work of the physician, both in his office and in the hospitals and clinics, but at the same time, decreasing the practitioner's income; secondly,—the appearance of numerous organizations of both medical and lay control, which with increasing aggressiveness, are assuming the right to dictate the method of medical service in certain economic, disease, employment, fraternal and military service groups.

Investigation in many counties of Michigan has shown it to be the opinion of the Profession that there is an immediate and critical need for constructive and aggressive leadership in the Profession, to relieve the economic chaos into which the Profession has been thrown, and to assume absolute control of all projects of a medical nature.

Therefore, respectfully submitting that procedure, which has allowed the development of such economic inefficiency, the development of paternalistic measures almost without opposition; and which has allowed the interference of unqualified groups in the practice of medicine, should be replaced by members sympathetic to efforts at improvement, and willing to be represented by a group of practitioners with full and extraordinary power to study thoroughly these professional and economic problems, recommend remedial measures, and use executive power to enforce changes endorsed by this House of Delegates as represented by The Council of the Michigan State Medical Society, the following resolution is submitted:

Whereas, the present economic depression has presented problems which demand immediate study and attention, and

Whereas, the national government as represented by the President, under whose direction the Public Health Bureau operates, the Medical Corps of the U. S. Army and Navy, and the Veterans Bureau function, under the control of whom the Narcotic Bureau and Child Health Bureau have been established; as represented by Congress, which by passage of health laws, by licensure laws and by the control of animal experimentation, and as represented by the Supreme Court and its many decisions in medical suits, has imposed certain obligations upon our profession in return for the right to practice medicine, some of which are not only irksome but impose an unfair burden. And as there is, however, no question as to the right of the government to impose reasonable requirements, and there is no tenable position but acquiescence, nevertheless the matter is simplified if the burden is properly distributed, and the reciprocal obligation of the public is established.

Whereas, the same comments are applicable to local governmental units, which include the following organizations:

1. The State Department of Health, which is subsidized by the Rockefeller Foundation, the president of which recently stated that food, clothing, posture, sleep, occupation, personnel adjustments, are becoming concerns of public health; which through its County Health Units, combined with other laws, have been given the right by the state to carry on full medical service to the public.
2. The State University, which with a 1,300 bed capacity, with an average bed occupancy of 1,100, is providing medical service to all economic groups of Michigan, and which has been advertised extensively.
3. The State Tuberculosis Hospitals, which have been expanding rapidly and are assuming the care of hundreds of cases, which have formerly been taken care of by their own physician.
4. The State Hospitals, which in addition to mental cases, are in many cases providing general medical and surgical care, often with inadequate medical personnel.
5. The Crippled Children's work, which is gaining rapid headway, which is now being administered under a commission, appointed by the Governor, all medical work being done by the commission and being concentrated in the hands of a few individuals.
6. The County Health Units, which are increasing in number steadily, and which have caused friction already in some counties, and which with their growth, will undoubtedly cause extensive interference with the practice of medicine.
7. The County hospitals, which are assuming the care of an increasing number of all types of medical cases—and as in the state hospitals, often with inadequate medical personnel—the attending physicians of which hospitals, receiving little, if any, compensation.
8. The Children's Hospitals which are caring for a large percentage of the children of the state, the attending physician receiving no compensation for the medical work.
9. The County Coroner's Office—which is elective and which has considerable influence in the health and safety of the citizens of the various counties.
10. The City Public Health Departments, which are entirely under the control of the mayor and the council of the cities. In many cases, the profession having very little to say regarding the appointment of the health officers, the appropriation for the conduct of the office, or the policies pursued.
11. The Health Department of the City Schools, which is under the direction of the Board of Education or the Board of Health and which provides medical care for a large number of children in the schools.
12. The City Physician's office, which in some instances, provides medical service to a considerable percentage of the population.
13. The Tuberculosis Division of the Department of Health, which is assuming an increasing number of patients for complete physical examination and extensive X-ray examination.
14. The Cancer Division of the Department of Health, which at the present time is doing no medical work.
15. Supervision of Sanitation. A medical activity of extreme importance to the public, is entirely out of the hands of the medical profession.
16. Medical colleges under the supervision of the Boards of Education, which through dispensaries, provide medical care for the public.
17. The City Hospitals, such as the Receiving Hospital in Detroit, provide medical service for a large number of patients—many of these cases, if only accident cases are considered, are cases which should be under the direct supervision of the Medical Profession.
18. City Hospital beds in private hospitals, which provide hospitalization for a section of the public, and the Medical Staffs are providing medical care at no cost to the city, and with no remuneration for the doctors.
19. The Welfare Departments, which, in many cases regard the group that receives an income which 89 per cent of the population receives as entitled to free medical care, are administering medical service to a large percentage of their communities, often without adequate medical supervision and often in a method destructive to personal initiative.

Whereas, in addition to the above, the following organizations are encroaching upon the practice of medicine, and it is questionable in so doing if any improvement in medical service is obtained:

1. Industrial corporations medical departments.
2. Private Hospital Clinics.
3. Privately endowed clinics, and Funds.
4. Educational Institutions with which are affiliated Fresh Air Schools, Crippled Children's Schools, etc.
5. Cancer and Heart Clinics.
6. Army Hospitals.
7. Marine Hospitals, to which are admitted without cost, all who follow work about the lakes and water fronts.
8. U. S. Veterans' Bureau, the activities of which have been expanding rapidly, so they now include medical service for former service men, for conditions which have no connection with their military service.
9. Orthopedic Clinics—usually under lay control.
10. Pre-School medical activities, which are increasing in scope and in which physicians are expected to participate without financial return.
11. Pre-Natal Clinics.
12. Railroad Hospitals and medical departments.
13. Insurance and Liability Company Medical Departments.
14. Private Clinics, such as the Mayo and the Ford Hospital in Detroit.
15. Pay Clinics.

Therefore, be it resolved that this House of Delegates of the Michigan State Medical Society *instruct the president* that a committee of five members be appointed to study the problems here enumerated, and that this committee be instructed to report in 60 days to the House of Delegates at a special meeting, the results of their study with remedial recommendations, and furthermore that the Council of this Society be instructed to advance the sum of $5,000 to this committee to aid in the work of the committee.

Speaker Pyle: The chair is of the opinion that this resolution would have to go to the Council first. If there is any disagreement in the assembly on that, I would be very glad to give any of you gentlemen the floor. Isn't that your opinion, Dr. Whittaker?

Dr. Whittaker (Wayne): I see no reason, except that certain parts require their consideration. I think it could be referred to the proper Committee on resolutions and referred back to the House of Delegates.

Secretary Warnshuis: For your information, it has been the precedent established under the Constitution and By-Laws that all resolutions providing for the expenditure of money be referred to the Council, and the Council pass on that measure and then pass it on to any Committee in the House desiring to bring in a report on it.

I am sure if this was referred to the Council this noon, the Council could have a report back this afternoon, and then it could be referred to the Business Committee. That is the procedure set by precedent.

Dr. Luce (Wayne): It seems to me that gives the Council a great deal of power. The House of Delegates is the ruling and governing body of the medical profession of the state of Michigan. That is an important resolution, and if possible, I wish that multigraphed copies of this could be prepared so that each and every member of the House of Delegates would have a copy for the afternoon session. Could that be done?

Secretary Warnshuis: I do not know what the facilities here are for having such work done, but if you desire it, I will see what can be done.

Dr. Christian (Ingham): This problem, it seems to me, is one of vital importance to every man who practices medicine in this state or any other state. In our county of only 80,000 people, the doctors have been imposed on from time immemorable. Last year we decided we would look into this problem. We want to know how much work we were doing annually. A survey of two hospitals was made and we found that the actual hospital staff cases that came into the county and city, for which no charge was made by the physicians, within our little county of 80,000, amounted to something like $35,000 a year.

We have found some other interesting things recently which we have reported to the University Hospital, various moneys expended from various counties in the state, and we found from July, 1930, to July, 1931, while Oakland County, for instance, as compared to us, spent $78,000 in the University Hospital, Saginaw, which has 34,000 more population than we have, spent $34,000, but we spent $35,000. We spent $235 for cases which were sent down to us because they had no facilities, that is mostly neurological cases. In other words, we were the goat.

We have organized our Committee and worked out a plan which has been effective in Iowa. We sent our Committee out to Davenport to make an investigation, and they came back and talked to the mayor and the Public Health Committee of the Council. We have sold them the idea that, beginning the first of October, the private medical societies are to operate the city clinic up to the first of March, free, and on the first of March we are to sign a contract with the city and the county to take care of their indigents.

This thing—and I think Dr. McIntyre will agree with me—is practically settled at this time. We have told them in veiled hints that after the first of March there is going to be no service from the doctors. They can either take it this way and have the entire facilities of the medical society at their command, or hire the individual physicians, and it has been pointed out to them that two, three, or five men can do this work. So now, the only nigger in the woodpile is the amount of money we are to receive. Politicians have been attempting to say to us, What is it going to cost us? We have not made any price, but we have merely stated this: We have given you $35,000 a year so far. We let that sink in.

The mayor has suggested that from the clinic work this winter we will be able to determine the amount that is to come from the county. I feel that if we in Ingham can put it across, other communities comparable in size and facilities with ours can do the same thing.

We have gained a great deal of experience in this Committee, handling the thing in a proper sequence, we think, and we have that material which we will be glad to pass on to any county society.

Speaker Pyle: There is an item in our Constitution, Section 2, Article 9, which reads: "The funds of the Society shall be disbursed by action of the Council," but the chair will refer Dr. Whittaker's resolution for further discussion later in the day, at which time the chair will entertain a motion.

Is there any further new business?

Dr. Brook (Kent): Dr. Moll, in his address, read the resolution presented in the House of Delegates of the American Medical Association, regarding veterans' benefits. I have a copy of it here which I will not read, but I would like to make formal presentation of this particular resolution and move its adoption.

RESOLUTION

"Whereas, The federal government has inaugurated the policy of rendering medical and hospital benefits to veterans of the World War with non-service connected disabilities; and

"Whereas, This policy was inaugurated over the opposition of the American Medical Association; and

"Whereas, The policy now in force if carried to its logical conclusions, involves the construction, the staffing, and the maintenance of a sufficient number of hospitals to accommodate the hospital needs of all the veterans of the World War; and

"Whereas, The present policy is of unequal benefit to veterans by reason of the fact that many disabled veterans cannot (for one reason or another) avail themselves of the benefit, therefore be it

"Resolved, That the House of Delegates of the Michigan State Medical Society petition the Congress of the United States and the American Legion to abandon the policy of rendering hospital and medical benefits to veterans of the World War with non-service connected disability, and substitute therefor a plan of disability insurance benefits with the following provisions:

"First, the creation of a Bureau of Disability insurance in the Veterans' Bureaus as now constituted.

"Second, the issuance of a disability insurance policy to each veteran with a disability benefit clause, as follows:

"(a) The payment of a weekly cash benefit during a period of total disability, and

"(b) The payment of liberal hospital benefit sufficient to cover the hospital expenses of a veteran during a period of hospitalization for any disability. Such benefits to be paid to a veteran on satisfactory proof of total disability, and

"(c) Such other provisions as are necessary for the proper administration of the act.

"Be it further

"Resolved, That the proper officers of this association be instructed to approach the officers of the American Legion with the view to securing the adoption of the policy above set out as a part of the legislative program of the American Legion."

The motion was seconded by Dr. Luce of Wayne, put to a vote and carried.

A. W. HORNBOGEN, DECEASED

Dr. Brook (Kent): May I have the privilege of the floor at this time to present a short memorial to one of the gentlemen who has for years been a delegate and a member of this House of Delegates, Dr. Hornbogen?

In Memoriam

Dr. Alfred William Hornbogen was born October 31, 1866, at Reeds Landing, Minnesota, and was brutally slain by the bullet of an inmate of the State prison at Marquette on August 27, 1931.

Since Dr. Hornbogen was for many years a devoted member of this House of Delegates it is fitting that we, assembled in annual convention, offer a tribute to the memory of this outstanding character.

As you know, it was my privilege to be rather closely associated with him at our meetings for a number of years, during which time I have learned to know him perhaps more intimately than any other member of our Society, and therefore it is a pleasant duty for me to briefly set forth some of the characteristics and attributes of this virile personality, elucidated by an incident or two.

Dr. Hornbogen was thoroughly honest and as trustworthy as steel. He was alert, genuine, loyal, direct, generous and positive, and although sometimes oppressive in stressing his point, yet beneath it all lay a kindly, generous heart. He had initiative and an organizational ability to carry out his ideas. His rugged physique and sometimes gruff personality were the products of heredity and environment. Born of hardy, honorable stock and reared in a country where men fought personal battles in defense of right and principle, he carried the customs of his boyhood days into the years of his professional career, not always coupled with diplomacy but nevertheless sincerely.

He abhorred crookedness. Many times in our hotel room have I heard him express his utter disgust of the individual or organization that was not going straight. And he was eminently fair. Occasionally he inadvertently antagonized a few. Yet for one who was not even on friendly terms, but if the individual was worthy and honorable he would say yes. And I have complimented him on more than one occasion because of this admirable quality. We all knew "Hornie" but I regret exceedingly that more of us did not know him intimately. Because of his peculiar personality, occasionally he inadvertently antagonized a few. Yet in his inmost heart he would lay nought in the path of progress of any man.

One of the greatest honors given to our departed friend was that bestowed upon him by the House of Delegates of the American Medical Association at its last session in Philadelphia when, while he was not a delegate, the House unanimously and unsolicited and unknown by anyone from Michigan, granted him the privilege of the floor upon motion of his friend Bedell of New York. I tried in vain to get an expression from him because of this signal honor. What I got was not expressed in words nor in the hearty laugh we all knew, but in a soft sweet smile which came from a kindly appreciative heart. He appreciated honors but would not talk about them.

Dr. Hornbogen was unselfish, and thoroughly loyal to his home, his city and state. This was demonstrated to me upon several occasions at the American Medical Association Meetings, one of which stands out very vividly in my memory. At the San Francisco Meeting the stage was all set on Tuesday, the second day of the meeting, for the reelection of Dr. Warnshuis as Speaker on Thursday and therefore the following day, Wednesday, was enjoyed sight seeing by Dr. Hornbogen, his wife, Mrs. Brook, and myself. Upon our return to the hotel at dinner time we were surprised to learn that during our absence Dr. Harris of New York had become a candidate for Speaker. He vehemently chastised his backers and openly challenged them to combat. His untiring efforts and fighting spirit brought victory to Michigan the next day. That was characteristic of the man. He had nothing personally at stake but he would fight to the limit for the state, county or city he represented. Michigan need never be ashamed of the representation she had in the House of Delegates of the American Medical Association in the person of Dr. Hornbogen.

His alertness was fostered by keen observation of his patients, particularly when operating, and this was followed by direct and positive instructions, particularly at critical moments. He seldom hesitated. These attributes grew on him because of environment, since, being some distance removed from medical and surgical centers, he had to and did assume all responsibility in the premises. His loyalty to his friends and patients was unstinted. I have known him to remain with a three-year-old pneumonia patient all night, and to travel three hundred miles to do a favor for a brother physician.

For many years he gave his services to the inmates of the children's orphanage in his home town and the hundreds of common folks who surrounded his grave when laid to rest gave mute evidence of the regard and esteem in which he was held by those whom he had gratuitously and skillfully served.

Dr. Hornbogen is dead, but the influence he exerted for right, justice and charity will be an inspiration and stimulus to the friends who mourn his demise. What a pity that such a life should be ended by the hand of a man he was trying to help. As a surgeon with peculiarly keen judgment, devoted to his work, a student of science and art, a vehement defender of his profession, a trusted leader in civic affairs, he lived a dynamic, dramatic life and died as he lived in a dramatic defense of his state and his country. All honor to Dr. Hornbogen.

"Strive to live well; tread in the upright ways
And rather count thy actions than thy days:
Then thou hast lived enough amongst us here,
For every day well spent, I count a year,
Live well, and then, how soon soe'er thou die,
Thou art of age to claim eternity."

J. D. Brook.

Dr. Brook (Kent): I move that this memorial be made a part of the record, and that it be printed in the Journal and a copy sent to Mrs. Hornbogen.

The motion was seconded by Perry of Luce, put to a vote and carried.

Speaker Pyle: Is there any further business, gentlemen?

Secretary Warnshuis: Mr. Speaker, it is now twelve twenty-five. The business of the House this afternoon is the consideration of the reports of

your reference committees. With the amount of business that has been handed to the reference committees, I am quite sure that none of them will be able to bring back a report at the stated time of two-thirty.

Does the House wish to convene at a later hour, or to consider the whole matter at a later hour, and recess at this time and not adjourn?

Dr. Connelly (Wayne): I move this House of Delegates recess until this evening.

Dr. Ekelund (Oakland): I want to call to the attention of the delegates that we have planned a little entertainment for them at the Club this evening, and we want them to be there at nine o'clock.

Dr. Gorsline (Calhoun): Can we meet at four o'clock and in an hour's time thresh out these reports and get them out of the way, so we won't be here so long tonight?

Dr. Biddle (Wayne): I will amend that motion, to recess until four o'clock.

The amendment was seconded by Morris of St. Joseph, put to a vote and carried. The motion as amended was then put to a vote and carried.

The meeting recessed at twelve-thirty o'clock.

Recess Session—First Session

Tuesday Afternoon Session

September 22, 1931

The recess session of the first session of the House of Delegates of the Michigan State Medical Society was called to order at four o'clock by Speaker Pyle.

Speaker Pyle: Gentlemen, the meeting will please come to order.

As this is a continuation of this morning's session, the roll call will stand as given this morning.

The next order of business is the report of the Committee on Officers' Reports, Dr. Gorsline, Calhoun, Chairman.

COMMITTEE ON REPORTS OF OFFICERS

Dr. Gorsline (Calhoun): Mr. Speaker, the Committee had an informal meeting and asked me to write up a report. I have seen only one other member of the Committee, but I will leave the report at the desk for their signatures.

Your Committee have listened with great interest to the reports of your President, President-elect, and Speaker of the House of Delegates, and have reviewed their manuscripts so far as furnished.

All of their observations show much thought and their recommendations should be given careful consideration.

We feel that our Society is to be congratulated upon having men of such outstanding ability for its officers.

Respectfully submitted,

C. S. Gorsline, Chairman
L. J. Hirschmann
V. Vanderventer

Mr. Speaker, I move the adoption of this report.

The motion was seconded, put to a vote and carried.

Speaker Pyle: Next we will listen to the report of the Committee on the Council report, Dr. Curry, Chairman.

REPORT ON COUNCIL'S REPORT

Dr. Curry (Genesee): Our committee met from one-thirty until four o'clock, with four members present. Dr. Lohr had to go to The American Legion meeting in Detroit.

We commend the report of the Council to the House of Delegates in its entirety, but we have made a few additional suggestions which I will read to you.

Dr. Curry read the report of the Committee on the Council Report, with the following interpolations:

Interpolation No. 1, preceding the words, "It is the opinion of this Committee that the problems, particularly of the smaller county societies," etc.: Under the heading of county society activities, Dr. Luce of Detroit, a distinguished member of our Committee, offered a solution to a problem which has confronted county societies for a long, long time.

I was secretary of Genesee County for four years and at every Secretaries' Conference somebody would suggest a means by which the county societies in the smaller districts of the state could get in closer contact with the larger centers, and that was as far as it ever went, and to my knowledge, at all of the Secretaries' Conferences since that time, it has been the same story.

Dr. Luce suggested an idea which we have incorporated into what I think we might call an explanatory paragraph.

Interpolation No. 2, preceding the words, "Under the heading of honorary members, this Committee agreed with the Council," etc.: Meaning by that, that each councilor in that district would have the power of appointing a committee of his own choice, with representation from his own county, in order to solve his problems. That is suggested as an amendment to Chapter 5, Section 2 of the By-Laws.

Interpolation No. 3, preceding the words, "With reference to President Ruthven's letter," etc.: (Reading Section 6 of the By-Laws, describing honorary members) This reading shall serve as the presentation of the proposed amendment, to be acted upon at the next annual meeting, as provided by the Constitution.

Speaker Pyle: Gentlemen, what is your pleasure regarding this report?

Dr. Biddle (Wayne): Is any action necessary regarding those other items, or is a motion to accept the report sufficient?

Speaker Pyle: As far as the amendments to our Constitution are concerned, the chair feels this constitutes previous notice, and that will be a matter for consideration next year.

Dr. Biddle (Wayne): Then I move the report be adopted and placed on file.

The motion was seconded by Hirschmann of Wayne, put to a vote and carried.

Dr. McKean (Wayne): There was one thing brought up in the report of the Committee that had reference to the appointment of a councilor committee by the councilor of each district, to assist him in ferreting out the troubles that Dr. Curry has spoken of, which have been brought up every year at the Secretaries' Conferences. It has been suggested in the report of this Committee that this be made a part of the duties of the councilor of that particular district.

I am simply asking for information as to whether that again serves as a presentation of an added amendment to the By-Laws, as was suggested by this Committee.

Speaker Pyle: Dr. Curry, will you give the gentleman that information as to the meaning of your resolution?

Dr. Curry (Genesee): I cannot answer his question.

Speaker Pyle: If you have anything constructive that will help the smaller societies, the chair would be willing to entertain a motion of any kind.

Dr. Hirschmann (Wayne): I do not believe that the recommendation made in that report requires any special legislative action. I believe in the definition of the duties of a councilor, that activity is well included under his duties and defined by our By-Laws. He can appoint committees and he can arrange to help county societies, and engage in various activities of that kind.

Dr. McKean (Wayne): We read that particular section, and that was not included in any way. He is supposed to keep quiet and peace and concord in his particular district, but any way of doing that is not prescribed. It was a question in our minds as to whether such a prescribed duty of appointing such a councilor committee might not help to bring this about.

Like Dr. Curry, I have served for three years on secretarial committees and heard the same thing he has heard. Every year the same thing comes up, and it is a question as to whether that might not further help to clarify the situation, and if necessary, I should make a formal presentation of such an amendment to Chapter 5, Section 2, I believe it is, of the By-Laws, adding this to the duties of a councilor, making it an actual bounden duty to appoint such a councilor committee.

Speaker Pyle: If there is no objection on the part of the assembly, this will serve as previous notice for another change in our Constitution and By-Laws next year.

We will next hear from the Chairman of the Business Committee, Dr. Penberthy of Wayne.

BUSINESS COMMITTEE

Dr. Penberthy read the report of the Business Committee. Dr. Biddle suggested that Item 3 be changed to read, "Next meeting of the House of Delegates," instead of "Next annual meeting."

Report of Business Committee

1. Report of the delegates to the American Medical Association. Your committee recommends its adoption.

2. The resolution requesting the House of Delegates of the Michigan State Medical Society to authorize the Public Health Education Committee to institute and conduct a state-wide radio campaign to broadcast popular medicine and to inform the public concerning the aims and activities of the state society, its component units and the work of its individual members and that negotiations be taken up with radio stations for the donation of time sufficient to present this important health message to the public is recommended.

3. The resolution introduced by Doctor Whittaker of Wayne, relative to medical economics, and because it involves so many basic problems of medical practice and the necessary amendment of many state and federal laws, your committee recommend that the resolution be referred to the council for its consideration with the recommendation that the special committee, if appointed, report the results of its findings at the next meeting of the House of Delegates.

4. The report of Industrial Relations Committee of the Wayne County Medical Society relative to ethics. Inasmuch as all points raised in this resolution are covered by our present code and that paragraph seven which reads as follows: "Any compensation case following injury in a factory being treated by a physician other than the regular company's surgeon shall not be interfered with in his treatment providing he shows reasonable skill and diligence in attending the case. It is provided, however, that the surgeon regularly employed by the company shall be privileged at proper times and under proper conditions to consult with the attending physician to determine the progress of the case if the employer or insurance company involved so request. Both physicians concerned shall preserve

a friendly relationship and make the welfare of the patient a paramount interest," conflicts with the state workman's compensation act which states that the employer shall furnish or cause to be furnished reasonable medical care. We do not recommend its adoption at this time.

5. Place of next annual meeting. We recommend that the invitation of Kalamazoo Academy of Medicine to hold the next annual meeting in Kalamazoo be accepted.

6. The chairman of the Council's supplemental report be adopted as read.

G. C. Penberthy
W. C. McCutcheon
A. V. Wenger

Speaker Pyle: Gentlemen, there are several things taken up here, the report of the delegate to the American Medical Association, the resolution to institute a radio campaign, Dr. Whittaker's resolution, the report of the Industrial Relations Committee of Wayne County relative to ethics, the place of meeting, and the Council's supplementary report.

As far as No. 5 is concerned, the place of meeting will be taken up under the head of elections.

What is the wish of the assembly? Do you wish to adopt this report in its entirety, or do you want to divide the question and vote on each division?

Dr. Connelly (Wayne): I move each question be voted on separately.

The motion was seconded, put to a vote and carried.

Speaker Pyle: We will take them up separately. The Secretary will read them.

Reading Item No. 1

Dr. Biddle (Wayne): I move its adoption.

The motion was seconded, put to a vote and carried.

Reading of item No. 2.

Carney (Gratiot-Isabella-Clare): I move this be accepted.

The motion was seconded, put to a vote and carried.

Reading of item No. 3.

Dr. Curtis (Wayne): When is this next meeting of the House of Delegates? I think a year is entirely too long to wait on this question. I think we should get action and get it right now. I think a Committee should be appointed and should make this report in ninety days, or four months at the latest. Four months would give them ample time to make a survey and turn in a special report, and then we could get this cleaned up.

Dr. Biddle (Wayne): I asked that the word "annual" be eliminated for exactly that reason. I think we should ask for a report within sixty days on Dr. Whittaker's resolution. That is the reason I suggested that.

Dr. Curtis (Wayne): I would modify that to read 90 to 120 days, but not a whole year, as recommended by the Committee. I am not in favor of waiting a year.

Dr. Wenger (Kent): There is no motion before the house. This discussion is out of order.

Dr. Denham (Kent): I move you the adoption of the recommendation of the Committee.

Dr. Wenger (Kent): I second the motion.

Dr. Curtis (Wayne): I move we lay it on the table for this afternoon's session.

The motion was seconded by Lakoff of Wayne, put to a rising vote and lost by a vote of 20 in favor to 22 opposed.

Speaker Pyle: The motion made by Dr. Denham, that the recommendation of the Committee be adopted, is now before the house.

Dr. Whittaker (Wayne): I would like to say, before this motion is put to a vote, that various problems presented in that resolution came about as the result of a good many problems encountered last year when doing work for the State Medical Society. I think if you had all had the same opportunity we had of visiting some of the small county societies, you would have found a good many of the members having financial difficulties at this time. And while I don't like to refer to the depression, because I think it is only a temporary depression, I do think a critical period is at hand and I think we should recognize it.

In the city of Detroit, the Health Department have offered work to the doctors at 50c a treatment, and the doctors are anxious to do it. They were offered obstetrics cases, requiring night work and many calls, for $10 a case, and they were anxious to do it. The superintendent of the hospitals tells me he has had a great many applications from doctors for any kind of a job. The superintendent of Public Health has had the same experience, doctors begging for some kind of work so they will be able to pay their office rent.

So I would like to see some real study made of this problem which is causing so much difficulty in the profession, and I think a year is too long to put it off. The acuteness of the situation may be over then, and I think any help from the Society should come within the next few months.

Another thing I would like to mention is this: last year in trying to get support for the work we were doing throughout the state, we approached not only the doctors who are members of the State Society, but we also called for help from doctors who are not members. It was mentioned this morning that the State Society has 3,600 members. There must be 2,000 members of our profession in this state that are not members of the Society, so we do not have a large majority in our Society and there must be some reason for it. When we called on the doctors who are not members of the Society, asking them for help, we received many interesting replies as to why they did not care to help us and were not interested.

A good many of the doctors outside, and many desirable members, feel this Society as a society has not represented them in relations with the public in the way it should, and while I don't have a great deal of sympathy with men outside of the Society, I think our Society could go out and do more for the individuals in the profession than it has in the past. This resolution is aimed at that thing at this time. This is a resolution to make a study of the organizations practicing medicine on a big scale.

Dr. Luce (Wayne): I move as an amendment to the motion before the house, that the date for the report of the committee be fixed as of on or before the first of February, 1932.

Speaker Pyle: The chair would like to ask for information. As I understand it, this resolution pertaining to medical economics was referred to the Council for action. Apparently, some of the delegates want to set a definite date for that action. I would like to ask the Secretary, if we are going to take action by February 1, through what means we would take that action—through the Journal, or how are we going to get better results by taking this up the first of the year than by waiting until our regular meeting?

Dr. Gorsline (Calhoun): We could have a special meeting of the House of Delegates.

Secretary Warnshuis: The report of the Committee reads that the resolution of Dr. Whittaker shall be referred to the Council for its consideration, with the recommendation that a special committtee, if appointed, report the result of its findings at the next meeting of the House of Delegates.

Speaker Pyle: Now then, a motion was made by Dr. Denham that the recommendation of the Com-

mittee be adopted. An amendment was made by Dr. Luce, stating the time at or before which we expect this committee to report. Do you men in the assembly realize that Dr. Luce's amendment fixes the time for not later than February 1? Is there any discussion on this amendment?

Dr. Dutchess (Wayne): I would like to inquire if the amendment involves the calling of a special session of the House of Delegates.

Speaker Pyle: The inference is that it does.

Is there any further discussion on the amendment? All in favor of the amendment, say "Aye"; opposed, "Nay." The amendment is carried.

Now we will vote on Dr. Denham's motion as amended. Is there any discussion?

Dr. Baumgarten (Wayne): Does this motion that we are voting on now assume that this committee will be appointed? The Business Committee, in their report, say, "If a committee is appointed." In other words, they leave it to the discretion of the Council or someone whether or not they appoint such a committee. There is no direction from the House of Delegates to appoint the committee. We are assuming that the committtee is going to be appointed. I think the motion first in order is that such a committee be appointed, before we tell a committtee which hasn't been apointed, to make a report.

Speaker Pyle: I don't believe the House can tell the Council they shall appoint a committee, but the chair feels this is a strong recommendation.

Dr. Baumgarten (Wayne): I do believe that this House of Delegates can direct that a certain committee be appointed. The report says, "if a committee is appointed." It seems to me we are going backwards. The first thing to do is to direct that the committee be appointed, before we tell it to meet and report to us.

Speaker Pyle: Do you wish to offer an amendment?

Dr. Baumgarten (Wayne): I offer an amendment to the House of Delegates, that such a committee as recommended in this report, be appointed.

Speaker Pyle: Gentlemen, there is an amendment that this matter be referred to the Council, and that a committee report not later than February 1. This amendment is the direction of the appointment of the committee.

Dr. Carstens (Wayne): This morning I believe this resolution was referred to the Council because it involved the expenditure of money. Unfortunately, the Council did not have the privilege of reviewing this, as the only copy available was being mimeographed. Shortly before four o'clock, the Council requested Dr. Cook, Dr. LeFevre, and myself, to come here and discuss it with the House of Delegates.

Shortly before four o'clock, we saw Dr. Whittaker, but it is only within the last fifteen minutes that we have had an opportunity to talk this over with him. So the Council has taken no formal action. In fact, we haven't had the opportunity of going over it.

We understand, of course, that the Committee voted to make a rather comprehensive survey of social and economic conditions, which apparently will be very broad, and from a very informal discussion by the Council members, after the reading of the resolution this noon, it seems like a rather large order to be covered in 60 days.

Furthermore, they were not sure about the expense. There is an outlay of $5,000 here, and that sounded rather large at first. As you will recall, we have several hundred members in arrears, and amount in arrears being approximately $4,500 to $5,000, on which one year's time has been given. Our budget this year we hope will come out pretty nearly even, and $5,000, at least informally, without having studied the matter, sounded like a very large sum. So, inasmuch as the Council really has not considered it, possibly you might give that consideration in your discussion.

Dr. Cook (Genesee): The question now is directing that a committee be appointed, isn't it?

Speaker Pyle: That is the amendment before the house. The last amendment was to expunge several words and in place of the words, "if a committee is appointed," to direct that a committee be appointed.

Dr. Cook (Genesee): There is one thing I would like to say, but not that I have any definite opinion. I also, with Dr. Carstens, was asked to discuss this if it seemed necessary. I would like to call your attention to the fact that you already have a committee known as the Committee on Civic and Industrial Relations, who have made a considerable study of some of these problems. However, it may not have been satisfactorily done, that is, as exhaustively done as you feel it should have been done, and I would like it left, if it meets with your approval, so that if, in the opinion of the Council or the Chairman of the Council or the President, or whoever might appoint the committee, such a committee should be appointed, that Committee on Civic and Industrial Relations might function, because they have the data on hand at this time and might expedite such a report, and it would seem to me to be necessary that you use every facility to make it as rapidly gotten together as possible.

I would like also to call your attention to the fact that I do not feel that it should be done so rapidly that it is not done well. I believe this covers a big scope and a big field, and we should give that some thought.

Dr. Biddle (Wayne): If we pass this amendment directing the Council to appoint the committee, and if the Council says it hasn't the money, does that end the whole matter, or will the committee act anyway?

Dr. Cook (Genesee): In answer to Dr. Biddle's question, I think I can assure this body that if you direct that a committee be appointed, or it is your desire . . .

Dr. Biddle (Interrupting): That isn't the question. The question is, if the Council says it has not $5,000 to give to this committee, what is the use of directing the appointment of the committee if it will not have the funds to carry out the work?

Dr. Cook (Genesee): I think our Secretary can best answer that question. He knows our condition.

Secretary Warnshuis: Do you want to know how much money the Society has?

Dr. Biddle (Wayne): That isn't the point I raised. The point is, if they cannot give them $5,000, does that settle the work of the committee? Supposing they say they haven't got $5,000. The committee can't act according to Dr. Whittaker's recommendations without funds. Is that the destiny of the committee, or what?

Dr. Cook (Genesee): I would like to call the attention of this body to the fact that the establishment of a committee which shall spend up to $5,000 is a very bad precedent, because if every committee should have the privilege of spending $5,000 in order to make a study, I am sure our dues would not remain at $10. I am not satisfied with what the dues would have to be under those circumstances.

Dr. Biddle (Wayne): That is just the point.

Speaker Pyle: The way the chair understood this resolution, it is not a question of spending $5,000.

Dr. Gorsline (Calhoun): I think the Committee Dr. Cook referred to is Dr. Collisi's Committee. I would like to hear from Dr. Collisi what portion of the work as outlined in this recommendation the Committee has already covered.

Speaker Pyle: If there is no objection on the part

of the assembly, I will give Dr. Collisi the privilege of the floor.

Dr. Collisi (Kent): I just came in. What is the question?

Speaker Pyle: The question is this: Dr. Whittaker's address this morning on medical economics covered a great many subjects in relation to the boards of health, county health officers and free clinics—a very broad subject. That resolution was referred to the Business Committee, Dr. Penberthy reporting, Dr. Denham moving to adopt their recommendation, Dr. Luce setting a time for the Council or committee to report back to the House of Delegates as not later than February 1, then another amendment saying that the House of Delegates direct the appointment of a committee, then in the discussion it was brought out that we already have an Industrial Relations Committee.

Now, the gentleman asks for information, just how much the Industrial Relations Committee has already done with these matters.

Dr. Collisi (Kent): The Civic and Industrial Relations Committee made a study of the clinic situation throughout the state by sending out questionnaires, the answers to which were tabulated and were previously reported in the Journal or in the report that was published in the Journal, two years ago. I don't recall exactly what the questions were, but anyway, it was along that line. This morning when Dr. Whittaker brought up the question, I recalled the fact that part of the work which he mentioned in regard to the clinics had already been covered two years ago.

When it comes to the matter of the expense of getting that information, I can't answer that. The expenses two years ago were the amount that was expended for traveling expenses of various members to Detroit for the meeting of the Committee.

Speaker Pyle: The chair feels there is no obstacle in accepting this, because the Council is asked to make a study through a committee. If they choose to turn it over to the Industrial Relations Committee, or part of them, that wouldn't interfere with the sense of the resolution.

Now, we have this amendment before the house to direct that a committee be appointed. Is there any further discussion on the amendment?

The amendment was put to a vote and carried.

Speaker Pyle: Now, the question is that this resolution as stated by Dr. Penberthy be adopted as amended by Dr. Luce of Wayne, that this committee report back not later than February 2, and then amended to expunge the words, "if a committee is appointed," directing that a committee be appointed.

Dr. Dutchess (Wayne): I woner if we shouldn't be reminded at this point that that involves this report being made to a special meeting of the House of Delegates.

Speaker Pyle: The chair would like to ask for information. Does the Council have the right to call a special meeting?

Secretary Warnshuis: Section 3 of Article 7 of the Constitution: "Special meetings of the House of Delegates shall be called by the Council, on a petition signed by thirty delegates who served at the last regular session of the House. It is distinctly provided that in petitioning for a special session of the House of Delegates not more than fifteen petitioners shall come from one county society."

In order to have a special meeing, after you have expressed your desire to have a special meeting, it is necessary for someone to formulate and pass a petition which is directed to the Council, which will then make it obligatory upon the Council to call a special meeting of the House of Delegates.

Dr. Cook (Genesee): Could not this body adjourn until that time? That would save that necessity.

Speaker Pyle: The chair feels there is sufficient interest shown in this thing that it will come spontaneously. The chair feels it is of sufficient importance for a special meeting to be called.

Gentlemen, is there any more discussion on the motion as amended?

The motion was put to a vote and carried.

Reading of Item 4 of the Business Committee's report.

Speaker Pyle: What is your pleasure, gentlemen, regarding this portion of the Committee's report?

Dr. Hirschmann (Wayne): I move the recommendation be adopted.

The motion was seconded.

Speaker Pyle: Is there any discussion?

Dr. Baumgarten (Wayne): I would like to ask the Committee in what respect there is any conflict between this resolution and the state law.

Dr. Penberthy (Wayne): The Compensation Act as it now reads stipulates that the employer shall furnish or cause to be furnished reasonable medical care. Under such circumstances, the employer has a right to select his surgeon. If, on the other hand, an injured employee is treated by another doctor, provided the company will approve of the treatment, and also if the company objects, then it is up to the individual injured to pay for his own medical care.

Dr. La Bine (Houghton-Baraga-Keweenaw): I have had a great deal to do with compensation cases in the last few years, and I have had great issue with the mining companies in regard to taking care of their injured employees. Any man working for whom it may concern, who gets injured, may employ any physician, whether or not the company has one, and that physician is paid in full for all his services, and during the time that patient wishes to have his physician take care of him, the company physician has nothing whatever to do with the case, even to the extent that until the time it comes before the Compensation Board, at which time an order is issued that the company physician has a right to go in and make an examination with the attending physician.

In other words, the law reads that the man shall receive medical treatment by any reputable physician, and the law does not state in any way, shape, or form, that the man has to be a doctor employed by the company. It just states that he must be a reputable physician, and when this physician takes the case, he has full charge of the case right through, and an order can be issued by the company that he be paid.

Dr. Baumgarten (Wayne): That answers my question, I believe, and another thing I would like to say is this: that, I believe, is one of the most common abuses which surgeons and physicians meet with in practice, or in taking care of industrial cases. It is a common practice, also, of some industrial surgeons to lead others to believe that is the correct interpretation of the law. We run up against that thing every day, and if there has ever been any other interpretation, I would like to know what it is. If there hasn't been anything to the contrary, I believe this resolution should be adopted.

Dr. Denham (Kent): I may cite you a particular instance in which this case came up, and it was decided by the Board of Industry and Labor. A man was injured in a factory, and knowing that the factory had a regularly employed surgeon, he called in his family physician. He was treated over a period of time by the family physician, and he attempted to collect a surgical fee. It was ruled by the Board of Industry and Labor that this man had knowledge of who the employer's surgeon was, and therefore the man would have to pay his own bill.

It is very true that the employer has the right to name the surgeon who takes care of his employee,

in that he is responsible for the welfare of that man, under the law.

Speaker Pyle: Is there any further discussion on this motion? The question, then, is on the adoption of Part 4 of the Committee's report, regarding the report of the Industrial Relations Committee.

The motion was put to a vote and lost.

Dr. Biddle (Wayne): Does that mean, Mr. Chairman, that we adopt the resolution?

Secretary Warnshuis: The question now is, what do you wish to do with the communication you received from Dr. McCormick?

Dr. Lakoff (Wayne): I think it is up to the House of Delegates to work out a plan, so in case the law states that the insurance company has a right to send these patients to a certain doctor, this can be changed and the Michigan State Medical Society can go on record in establishing the fact that the patient belongs to the family physician, and that the family physician has full control of that case. That abuse has been going on for years, and it seems that the medical profession is afraid to go out in the open and fight that sort of abuse. I think when a patient is injured, he has a right to select his own doctor, and we should fight right here for that right.

Speaker Pyle: There is no motion before the house. Does anyone wish to make a motion regarding this?

Dr. Lakoff (Wayne): I will put that in the form of a motion. The motion is that the Michigan State Medical Society be on record as favoring that the patient injured while at work has a right to select his own doctor for treatment.

The motion was seconded by Andries of Wayne.

Speaker Pyle: Is there any discussion?

Dr. Woodworth (Wayne): Does that bring up the question as to whether or not he may have the right to select his own physician? I understand from some of the discussion I have heard that he has that right now, but the question is, who pays the bill? Should there not be something incorporated in there that he not only has the right to select his own physician, but the employer shall pay the bill?

Speaker Pyle: Do you wish to amend the motion?

Dr. Woodworth (Wayne): I was asking as a matter of information.

Dr. Traynor (Mecosta): Can't this man select his own physician, or select whom he cares to have treat him, on the same basis that he can select a chiropractor or osteopath, or anyone else?

Speaker Pyle: Does anyone wish to answer the gentleman's question?

The motion was put to a vote and lost.

Dr. Whittaker (Wayne): Mr. Chairman, I move the resolution by Dr. McCormick be accepted by this body, and that the matter be referred to the Legislative Committee of the Michigan State Medical Society, that they may attempt to have the law changed in conformity with that resolution.

The motion was seconded, put to a vote and carried.

Secretary Warnshuis: The next item is regarding the next annual meeting, and, as the speaker rules, that will come up at the evening session.

The last item is a recommendation that the Chairman of the Council's supplementary report be adopted.

Dr. Andries (Wayne): I move we adopt it.

The motion was seconded, put to a vote and carried.

Dr. Penberthy (Wayne): I move, then, that the report as submitted and amended be adopted.

The motion was seconded by Hirschmann of Wayne, put to a vote and carried.

Speaker Pyle: Is there any unfinished business to come before the house at this time?

Dr. Dutchess (Wayne): I believe the motion to have this special committee report back before February 1, was carried. Would it not be advisable to make preparations to have that meeting called?

Speaker Pyle: As the Secretary read from the Constitution, it depends upon a petition being signed by a certain number of delegates, proportioned in a certain way, petitioning the Council to call a meeting, so I presume we will have to wait for that.

Dr. Dutchess (Wayne): I believe Dr. Cook suggested that we could recess instead of adjourning this meeting.

Dr. Cook (Genesee): I think when we adjourn this evening, we could make a motion that the next meeting would be an adjourned session of this meeting. I am not sure about that, but it has been done in other parliamentary bodies.

Dr. Hirschmann (Wayne): It states on page 6 of this report that the committee be instructed to report—it was changed to not later than the first of February—to the House of Delegates at a special meeting, and that was changed to read the next meeting. The next meeting will be a special meeting and will have to be called by a petition. We can't do it at an adjourned session of this meeting. It must be a new meeting.

Secretary Warnshuis: A body that does not meet oftener than quarterly cannot adjourn over that time. A body that meets only once a year cannot adjourn, to meet again in one month, two months, or three months.

Member: Read Robert's Rules of Order, please.

Secretary Warnshius: "When the adjournment closes a session in an assembly which does not meet as often as quarterly, all pending business falls with the adjournment and must be introduced at the next session as new business."

Speaker Pyle: As the chair stated before, I think there is sufficient interest in this matter that the petition will be forthcoming and we will have the special session.

Dr. Andrews (Kalamazoo-Allegan-VanBuren): I move you that a petition calling for a special meeting on the first day of February, or before, be started at this time.

Dr. Hirschmann (Wayne): That is entirely out of order. That is not a matter to come up before the House as so constituted. That is a matter for the individual members to take care of. If a bunch want to get together in a corner and sign a petition, that is the way to do it.

Dr. Curtis (Wayne): Section 1 of Chapter 3 says the House of Delegates may specify its own time for meeting. Anything in Robert's Rules of Order that conflicts with our Constitution and By-Laws is not binding.

Dr. Wenger (Kent): That has reference to the time of day we are in session.

Dr. Curtis (Wayne): "The House of Delegates shall meet annually at the time and place of the Annual Session and may hold such number of sessions as the House may determine and its business require, adjourning from day to day as may be necessary to complete its business and specifying its own time for the holding of its sessions."

Speaker Pyle: This is a meeting, and these different gatherings are sessions.

Dr. Curtis (Wayne): Very true. Therefore, we could hold over the third session until the first of January if we wish, because it says we may specify the time.

Speaker Pyle: That is from day to day, not from month to month.

Dr. Curtis (Wayne): That is very true, but it goes on to say, "and specifying its own time for the holding of its sessions."

Speaker Pyle: Holding of sessions but not meet-

ings. This is a meeting, and we have three sessions.

Dr. Curtis (Wayne): This is the first session. This is a recessed session of the first session now.

Speaker Pyle: The chair rules that this is the second session.

Dr. Curtis (Wayne): I appeal to the house on the statement that the Speaker of this House made at the opening of this session.

Speaker Pyle: An appeal has been made to the House. Shall the decision of the chair be sustained? What is your pleasure?

Dr. Wenger (Kent): I move the decision of the chair be sustained.

Dr. Hirschmann (Wayne): What was the decision of the chair?

Speaker Pyle: The decision of the chair was this: that according to our Constitution, we could not carry this matter over and call a continued meeting the first of February.

Dr. Curtis (Wayne): That is not the decision of the chair. You stated it was your decision that this was the second session. At the opening of the meeting, you stated it was a continuation of this morning's session.

Speaker Pyle: There is a question before the house. The chair will ask for a rising vote. Will the decision of the chair be sustained?

Member: Mr. Chairman, which decision?

Dr. Brook (Kent): May I ask whether or not a motion to adjourn was made this morning?

Dr. Biddle (Wayne): I moved we recess, to meet at four o'clock.

Dr. Curtis (Wayne): Mr. Speaker, I wish to inform the house that should they vote to uphold the chair in his decision, the moment we adjourn from this session we can bring up no further business today except by the unanimous consent of the whole house.

Dr. Luce (Wayne): The minutes of this morning's meeting will decide whether this is a meeting following a recess, or the second meeting.

Speaker Pyle: The chair feels this is not at all important. It is irrelevant and dilatory. The chair will now rule that he is not sustained. That closes the matter. (Laughter and applause.)

SPEAKER'S BADGE

Dr. Brook (Kent): Most of us have our coats off, but those of us who have them on, I notice, are wearing a badge. When I look at our Speaker, I see he is badgeless—not speechless but badgeless.

Now, it seems that a year ago this house or the Council took some action to provide the president of the Michigan State Medical Society with a special badge worthy of the office, but they forgot our speaker, and I move, Mr. Chairman, because of that fact, that the Council be requested to furnish to our speaker a special badge designating the office, similar to the one the president wears.

Speaker Pyle: The chair would like to entertain an amendment that the motion be retroactive so the speaker will get the three he has missed. (Laughter.)

Are you ready for the motion?

The motion was put to a vote and carried.

Speaker Pyle: Is there any unfinished business to come before the house?

Dr. Curtis (Wayne): I move that the second session of this House of Delegates be started ten minutes after the adjournment of this session.

The motion was put to a vote and carried.

The meeting adjourned at five-fifteen o'clock.

Second Session

Tuesday Afternoon Session

September 22, 1931

The second session of the House of Delegates of the Michigan State Medical Society was called to order at five twenty-five o'clock by Speaker Pyle.

Speaker Pyle: The meeting will please come to order.

Dr. Curtis (Wayne): I move the roll call of the first session constitute the roll call of this session.

The motion was seconded, put to a vote and carried.

Speaker Pyle: Is there any further business?

Dr. Traynor (Mecosta): In the report of the Chairman of the Council this morning, there was a recommendation made affecting the scientific sessions, and the time allotted to the special sessions and the general sessions. As far as I heard, no action was taken on this by the Committee on Business. I believe that should be considered.

Dr. Penberthy (Wayne): The Committee was not furnished with the report of the Council.

Speaker Pyle: I don't know how this happened, but the report of the Council which was read by Dr. Corbus was supposed to have gone to Dr. Penberthy's Committee, and if it has not been considered by them, it might be well for them to take the report and consider it between now and the evening session, and bring in a report at that time.

Dr. Curtis (Wayne): Can that he brought up under business?

Secretary Warnshuis: As a supplementary report of the Business Committee.

Speaker Pyle: Is there any other business, gentlemen?

Dr. Curtis (Wayne): Mr. Chairman, I move we adjourn until seven-thirty.

The motion was put to a vote and carried and the meeting adjourned at 5:30 o'clock.

Third Session

TUESDAY EVENING SESSION

September 22, 1931

The third session of the House of Delegates of the Michigan State Medical Society was called to order at seven-forty o'clock by Speaker Pyle.

Speaker Pyle: Gentlemen, let's come to order.

The secretary will call the roll, please.

Secretary Warnshuis: Mr. Speaker and Members of the House: I hold in my hand the signed roll call of 40 delegates. I move, sir, this constitute the roll call of the third session of this house.

The motion was seconded, put to a vote and carried.

Speaker Pyle: There was one matter held over from the second session, and that was part of the work of the Business Committee. We will ask Dr. Penberthy to read his supplementary report at this time.

Dr. Penberthy read his supplementary report.

SUPPLEMENTARY REPORT—BUSINESS COMMITTEE

1. The Committee concurs in the Council's recommendation for a moratorium on dues, extending subscription to THE JOURNAL, and legal protection for one year.

2. The Committee accords hearty support to the activities of the Executive Committee in relation to their interest in supporting the work of the various committees, county societies, and newspapers providing a health column and lectures given to high school students in regard to public health and scientific medicine. The work of the Joint Committee on Public Health Education is commendable. The desire to establish closer contacts and helpful assistance to the several foundations and State Department of Health in establishing and operating county health units. Such foundations as the Children's Fund and Anti-Tuberculosis Society have expressed a desire to maintain a closer liaison with the Society and the profession, extending an invitation to appoint representatives upon their advisory boards. The Council designated the Chairman to represent the Society.

3. The Committee heartily approves and endorses the activity of the Council in making available postgraduate work and instruction, and recommends the continuation of these activities as far as possible.

4. It is recommended that the House support the recommendation of the Council in suggesting a change in the type of program for the Annual Meeting. The question arises—should there be limited Section meetings one day with two or possibly three sessions and devoting the second day to a general meeting with a program of case demonstrations and one-half hour discussions given by a selected list of recognized clinicians?

5. The Committee heartily approves the work of the Legislative Committee and recommendation of the Council that the legislative policy as adopted be continued.

6. The Committee endorses the stand taken by the Council relating to corporation practice.

(Signed) G. C. PENBERTHY,
W. C. MCCUTCHEON,
A. V. WENGER.

Speaker Pyle: Gentlemen, you have received the report. What is your pleasure?

Dr. McKean (Wayne): I move it be accepted.

The motion was seconded by Connelly of Wayne.

Speaker Pyle: Is there any discussion?

Dr. Denham (Kent): Just what is meant by a moratorium here? Does that mean that all of those members who were in good standing last year will be carried, the Journal mailed to them, and they will have the legal protection of the Society? How do we know that a number of those members do not care to resign? Why wouldn't it be a good idea to have each member who cares to continue, but is not able to pay his dues, give the Society a note for his dues, and thereby make him a member in good standing? Then we would have a record of the fact that they did want to continue as members of the Society, and we would have the note as an indication that they wanted to be members in good standing.

Dr. Penberthy (Wayne): The only information I have is what the Council has recommended. We as a committee approved the recommendation of the Council in allowing the members who have not paid their dues this year, to be carried one year. Now, I think Dr. Denham's suggestion would place on record the action of the various members that are now delinquent. It would be an expression of their feeling toward the Society.

Dr. Denham (Kent): In giving these notes and paying their dues by notes, it would give the Society a greater representation at the next meeting of the House of Delegates, would it not? If we meet before the first of February, as we decided this afternoon to do, it will give each society a greater representation. If they had paid their dues with a note, we could consider them members in good standing, and each society would have a larger number of delegates.

Speaker Pyle: Is there any further discussion? The motion is on the adoption of the report of the Reference Committee.

Dr. Penberthy (Wayne): I think there should be some discussion relative to the change of the programs. If we adopt this as a whole, that will cut off that discussion.

Speaker Pyle: Do you want to divide the question, gentlemen, and discuss it further? What is your pleasure?

Dr. Baumgarten (Wayne): Why not take this report apart like we did this afternoon? We can go over it rapidly and pass on each part separately.

Reading of Item 1 of the supplementary report of the Business Committee.

Speaker Pyle: What do you wish to do with this portion of the report?

Dr. Biddle (Wayne): I move its adoption.

The motion was seconded.

Dr. Denham (Kent): I move that be amended so that the members who are now in arrears, who care to continue as members of the Society, may be allowed to pay their dues by note, thereby giving each society greater strength in the House of Delegates.

Dr. Curtis (Wayne): That wouldn't work unless the county societies received their dues at the same time. This amendment will not work unless these men pay their county as well as their state dues, because they have to be paid up in the county before they can be allowed their prorated number of delegates.

Dr. Denham (Kent): I accept that criticism and suggest that instead of making it state dues, we say a note including state and county dues.

Dr. Morris (St. Joseph): I second the motion.

Secretary Warnshuis reread Item I, adding the words, "Providing the member supply his county society with a note to include his county and state dues."

Dr. Hirschmann (Wayne): If he pays his dues by note, that is not a moratorium. That changes the verbiage of that amendment, so if you will substitute note for moratorium it will be all right.

Dr. Curtis (Wayne): The moratorium is now in existence, and this won't go into existence until it is worked out and the time fixed. The moratorium was extended by your Executive Council. It still stands.

The amendment was put to a vote and carried.

Speaker Pyle: We will now vote on the motion as amended. Is there any discussion, gentlemen?

The motion was put to a vote and carried.

Reading of Item 2 of the Committee's report.

Speaker Pyle: Gentlemen, what is your pleasure regarding the division as read by the Secretary?

Dr. Biddle (Wayne): I move its adoption.

The motion was seconded by McKean of Wayne, put to a vote and carried.

Reading of Item 3.

Speaker Pyle: What is your pleasure, gentlemen?

Dr. Gorsline (Calhoun): I move its adoption.

The motion was seconded, put to a vote and carried.

Reading of Item 4.

Secretary Warnshuis: The Committee makes no recommendation.

Dr. Baumgarten (Wayne): Does that general meeting mean a meeting of the entire Society, rather than by sections? I wonder if that could always be done in places where the meeting is held, whether there would always be room to hold a meeting with case demonstrations, whether that would be practical.

Speaker Pyle: Does someone want to make a motion on this?

Dr. Ellet (Berrien): I move this portion of the report be adopted.

Dr. Curtis (Wayne): I would like to amend the motion with the suggestion to the Council that they work this out themselves and not have it threshed out on the floor of the house. They have no definite plan, but I would suggest we refer it to the Council for final action.

Secretary Warnshuis: Dr. Curtis and Members of the House: May I suggest, the scientific program of the Society is worked out by the Scientific Committee, which is composed of the chairman and secretary of each section, of which we have six. If you, in place of moving that the Council work this out, propose that the Scientific Committee, composed of the chairman and secretary of each section, determine whether or not they want such a program, I believe that is a better way to handle it.

Dr. Curtis (Wayne): I accept the correction.

Speaker Pyle: We will vote on the motion as amended by Dr. Curtis, he having changed his amendment to conform with Secretary Warnshuis' suggestion.

The motion was put to a vote and carried.

Reading of Item 5.

Speaker Pyle: What is your pleasure, gentlemen?

Dr. McKean (Wayne): I move its adoption.

The motion was seconded.

Speaker Pyle: Is there any discussion?

Dr. Curtis (Wayne): May I ask the Legislative Committee just what their program or their policy is. Some of them don't seem to know.

Speaker Pyle: Is any member of the Legislative Committee here?

Dr. Whittaker (Wayne): I think Dr. Sundwall outlined the program and policy of the Legislative Committee very fully this morning, and in addition to that, in the last Journal it is very well outlined. I think the policy, as such, varies from year to year, depending upon the situation in Lansing. I should say roughly it was the policy of the Society last year to not present any new legislation to the Legislature, but to pass carefully on what was proposed up there, and if the laws and bills were not desirable, to attempt to defeat them.

It probably was meant by the Council to continue that same policy. However, I might say here that I feel that our legislative policy is a little bit cramped in a way, and I am in favor of being a little more aggressive, particularly in the future. I would like to see us get behind the proposal of Dr. Sundwall to have all medical licensure localized in a state board, and thereby taken out of our hands so we will not be criticized for taking work away from another group. However, we have no hard and fast policy to follow.

Dr. Curtis (Wayne): Meaning, we have no policy.

Dr. Ellet (Berrien): If we have no policy, how can we adopt it?

Speaker Pyle: We are not adopting a policy.

Dr. Ellet (Berrien): As that reads, we will accept the recommendation for the policy the Legislative Committee is going to follow. How are we going to do that if it changes from year to year? We can't endorse it very well.

Dr. Whittaker (Wayne): I think, myself, that recommendation is a little bit hard to interpret, and I would suggest that you call on the Council and ask them for their meaning regarding that recommendation.

Speaker Pyle: Is there any further discussion?

We are voting on the adoption of the recommendation of the Committee in Item 5. Are you ready for the question?

The motion was put to a vote and carried.

Reading of Item 6.

Speaker Pyle: Do you wish to take any action on that part of the Committee's report? The chair will entertain a motion for its adoption or rejection.

Dr. Curtis (Wayne): I move we accept the Council's viewing-with-alarm policy regarding legislation.

The motion was seconded, put to a vote and carried.

Dr. Penberthy (Wayne): I move you, Mr. Speaker, that the report as submitted be adopted as a whole.

The motion was seconded, put to a vote and carried.

Speaker Pyle: Do any of the reference committees wish to make any supplementary report of any kind?

PETITION FOR SPECIAL SESSION

Dr. Carstens (Wayne): May I present the petition, signed by 43 delegates, requesting that the Council call a special meeting of the House of Delegates before February 1?

Secretary Warnshuis: In order that it may be a matter of the record of the meeting, would you permit and rule that the Secretary shall read this petition?

Speaker Pyle: I so rule.

Secretary Warnshuis: "We, the undersigned delegates to the 111th Annual Meeting of the Michigan State Medical Society, do petition the honorable Council of said Society to call a special meeting of the House of Delegates on or before February 1, to consider Dr. Whittaker's resolution.

(Signed by)

Curtis, Wayne
Catherwood, Wayne
Hafford, Calhoun
Langford, Washtenaw
Reveno, Wayne
Allen, Wayne
Gariepy, Wayne
Connelly, Wayne
Gorsline, Calhoun
Morris, St. Joseph
Luce, Wayne
Estabrook, Wayne
Plaggemeyer, Wayne
Hasley, Wayne
Maurer, Tuscola
Woodworth, Wayne
Lakoff, Wayne
Whittaker, Wayne
Perry, Luce
Vanderventer, Marquette-Alger
McClintic, Wayne
McKean, Wayne
Ellet, Berrien
Robinson, Manistee
Ekelund, Oakland
Trainer, Mecosta
Switzer, Mason
Andrews, Kalamazoo-Allegan-Van Buren
Mercer, Oakland
Curry, Genesee
Connell, Genesee
Reeder, Genesee
Burns, Antrim-Charlevoix-Emmet-Cheboygan
McNabb, Kalamazoo-Allegan-Van Buren
Brook, Kent
McCutcheon, Cass
Lohr, Saginaw
Wenger, Kent
Wilson, Kent
Stickley, Ottawa
Christian, Ingham
Brooker, Ingham"

Dr. Curtis (Wayne): I move you, as a matter of record, that the Secretary be instructed to count the number of delegates from one county, so there will be no misunderstanding.

Secretary Warnshuis: There are fifteen signatures from Wayne County.

Dr. Biddle (Wayne): May I ask a question? The members of the House of Delegates of Wayne are elected in January. If this meeting is not called until after that time, and there is a new membership in the House of Delegates, must a new petition come in from that body, or can the Secretary of this body fix this meeting for another House?

Speaker Pyle: It is the opinion of the chair that this constitutes a call, according to our Constitution. We have this signed petition to the Council. It does not say who shall be the delegates.

Dr. Biddle (Wayne): Will it constitute a call of an entirely new House?

Dr. Curtis (Wayne): These men will not be certified as delegates until after the first of February.

Dr. Biddle (Wayne): Can the present House of Delegates fix the meeting for the other?

Speaker Pyle: The only way we can call a special meeting is in the way we have done it here. The chair feels this constitutes a call.

Dr. Andrews (Kalamazoo-Allegan-Van Buren): The place of meeting was not designated. Was that omitted intentionally?

Speaker Pyle: The chair is willing to hear discussion on the place of this meeting.

Dr. Riley (Jackson): I move we hold it in Jackson.

Dr. O'Mera (Jackson): I second the motion.

Speaker Pyle: You have heard the motion as stated by Dr. Riley and supported by Dr. O'Meara of Jackson, that we have this special meeting at Jackson. Is there any discussion?

Dr. Denham (Kent): Isn't that up to the Council or Board?

Speaker Pyle: The Council provides for the meeting, but I don't believe the Council is particularly interested in knowing where we have it.

Possibly some of the members in the assembly would like to know what inducements there are in Jackson for the first of February.

The motion was put to a vote and carried.

Speaker Pyle: Does any other committee wish to report at this time? If not, the chair will entertain nominations for the office of president-elect.

NOMINATIONS

Dr. Penberthy (Wayne): I would like to place before the House of Delegates the name of a Wayne County gentleman, one well known to all of you, one who has been active in state activities, one who has just recently been president of the Wayne County Medical Society, carrying the Society through the year in a manner that reflects great credit on this particular gentleman.

He has been a member of the Legislative Committee, and we in Wayne feel that we would like to have the next president-elect.

The president-elect will be expected to devote considerable time to the activities of the Society. It will be a legislative year when he takes office, and it is, therefore, with great pleasure that I give you the name of Dr. J. Milton Robb as a candidate for the office of president-elect.

Dr. Gorsline (Calhoun): On behalf of myself, individually, and with the concurrence of Dr. Hafford, the other delegate from Calhoun, it gives me great pleasure to support that nomination.

Dr. Brook (Kent): In behalf of Kent County, and with the concurrence of the balance of the delegates, I would like to support the nomination of Dr. Robb.

Dr. Carstens (Wayne): I move the nominations be closed.

The motion was seconded, put to a vote and carried.

Dr. Connelly (Wayne): I move the Secretary be instructed to cast the ballot for the candidate.

The motion was seconded, put to a vote and carried.

Secretary Warnshuis: The Secretary hereby casts the ballot of the House for Dr. Robb for president-elect of the Michigan State Medical Society.

Speaker Pyle: And the chair declares Dr. Robb unanimously elected to the office of president-elect. (Applause.)

We will now vote on the place of meeting. Is there any discussion on that?

Dr. Andrews (Kalamazoo-Allegan-Van Buren): Mr. Speaker, Kalamazoo will attempt to vie with Jackson in entertaining the next annual meeting, if you so desire, and I would like to move you that the next annual meeting be held at Kalamazoo.

The motion was seconded by McNabb of Kalamazoo, put to a vote and carried.

Speaker Pyle: Nominations are now in order for delegate to the American Medical Association to succeed Dr. Carl F. Moll.

Dr. Hasley (Wayne): Mr. Speaker, Members of the House of Delegates: I would like to propose the name of a man from the rank and file, who in years of service has gained a wonderful amount of information which is very valuable to the Michigan State Medical Society. He is a past-president of his local society. He has been the chairman of the Local Committee of the meeting of the A. M. A., and he is the past-president of our magnificant Michigan State Medical Society.

I propose the name of a Wayne County gentleman, not that the people of Wayne want everything, but because they feel he is able to render us a great service, Dr. Louis Hirschmann.

Dr. Reeder (Genesee): The man whose name I propose to offer to you needs no introduction or flowery remarks pertaining to his past. You all know him well. You have given him the highest honor of the state, just as Dr. Hirschmann has held the highest position of the state. He has served you well for years and he is going to continue to serve you even better this coming year. He has had years of experience in the American Medical Association, which I believe would bear great weight for us, if we should elect again Dr. Carl Moll of Flint.

Speaker Pyle: Are there any further nominations? If not, the chair will declare the nominations closed and appoint as tellers Doctors Curtis of Wayne, Denham of Kent, Morris of St. Joseph, Westgate of Lenawee, Garber of Muskegon.

Balloting and counting ballots for delegate to American Medical Association.

Dr. Curtis (Chairman of tellers): Mr. Speaker, 62 ballots were cast. Dr. Hirschmann received 36 and Dr. Moll received 26.

Speaker Pyle: The chair declares Dr. Hirschmann elected as delegate to the American Medical Association.

Nominations for alternate delegate to A. M. A. are in order, gentlemen.

Dr. Dutchess (Wayne): I nominate Dr. Moll of Genesee.

Dr. LaBine (Houghton-Baraga-Keweenaw): I wish to nominate a man from the Upper Peninsula. You don't hear of us up there very much. I wish to nominate Dr. Perry of Newberry, a man who has attended meetings of all kinds year after year, in the state of Michigan. I am sure, in our modest way, we wish you to just vote for him as an alternate from the Upper Peninsula.

Speaker Pyle: Dr. Moll and Dr. Perry have been nominated as alternate to succeed Dr. Cassidy whose term has expired. Are there any further nominations? If not, the nominations are closed.

Balloting for alternate.

Speaker Pyle: Have all those voted who wish to? If so, I declare the ballot closed.

Counting of ballots.

Dr. Curtis (Chairman of tellers): There were 58 ballots cast, of which Dr. Perry received 36 and Dr. Moll 22.

Speaker Pyle: The chair declares Dr. Perry elected alternate to the American Medical Association to succeed Dr. Cassidy.

Nominations are in order for alternate to A. M. A. to succeed Dr. Hornbogen, deceased.

Dr. Hirschmann (Wayne): There is no question in my mind, or anybody else's, but what Michigan needs trained and experienced men in the House of Delegates of the A. M. A. There is a very definite feeling in this Association, evidenced several years ago, that we want to keep men on the job who know the ropes. We have shown here a sense of fairness to the Upper Peninsula in electing Dr. Perry to fill Dr. Cassidy's shoes, and now as a sense of fairness, not from a geographical standpoint, I nominate Dr. Moll as alternate to succeed Dr. Hornbogen.

Dr. Curtis (Wayne): I move the nominations be closed.

The motion was put to a vote and carried.

Dr. Hirschmann (Wayne): I move the Secretary be instructed to cast the ballot of this House for Dr. Moll.

The motion was seconded, put to a vote and carried.

Secretary Warnshuis: Mr. Speaker, your Secretary does so cast.

Speaker Pyle: I declare Mr. Moll elected alternate delegate to the American Medical Association to succeed Dr. Hornbogen, deceased.

Nominations for councilor are in order. First of all, we will listen to nominations for councilor to succeed Dr. C. E. Boys of the 4th District.

Dr. Andrews (Kalamazoo-Allegan-Van Buren): Mr. Speaker, Members of the House: I wish to place in nomination the name of Dr. Boys to succeed himself. Dr. Boys, in his service to the Society, has given unstintingly of his time and money, and I know he will continue in the future to act as ably as he has in the past.

Dr. McNabb (Kalamazoo-Allegan-Van Buren): I wish to second the nomination of Dr. Boys of the 4th District to succeed himself.

Dr. McCutcheon (Cass): I desire to place in nomination the name of Dr. W. C. Ellet of Benton Harbor. Dr. Ellet is the secretary of the Berrien County Medical Society. The position of councilor has been held by Kalamazoo County since 1902, and the western part of the District feel that they ought to be represented.

Speaker Pyle: Are there any further nominations, gentlemen? The tellers will spread the ballots, and we will vote on Dr. Boys and Dr. Ellet as councilor of the 4th District.

Balloting.

Speaker Pyle: Gentlemen, has everyone voted who wishes to? If so, the chair declares the ballot closed.

Counting ballots.

Dr. Curtis (Chairman of tellers): There were 60 votes cast, of which Dr. Boys received 31 and Dr. Ellet 29.

Speaker Pyle: The chair declares Dr. Boys elected as councilor of the 4th District to succeed himself.

Nominations are in order for councilor of the 5th District to succeed Dr. Corbus.

Dr. Wenger (Kent): The delegates of the 5th District, in caucus, present the name of Dr. Corbus.

Dr. Brook (Kent): I move the nominations be closed and the Secretary be instructed to cast the ballot of this House of Delegates for Dr. Corbus.

The motion was seconded by Morris of St. Joseph, put to a vote and carried.

Secretary Warnshuis: Your Secretary does so cast.

Speaker Pyle: I declare Dr. Burton R. Corbus councilor for the 5th District.

Nominations for the councilor of the 6th District are in order, to succeed Dr. Henry Cook.

Dr. Greene (Shiawassee): I regret to say there has been a little dissension on the part of the delegates from the 6th District. This morning they held a caucus and seemed to agree on their candidate, but after the afternoon session, the delegates from this man's home county seemed to feel he hadn't acquitted himself very well; they said he had been on his feet six times and they didn't know what it was all about yet. But we delegates from the other counties, Clinton and Shiawassee, finally convinced them that this man made up for his lack of "articulativeness" in his energy and faithfulness, so I would like to place in nomination the name of Dr. Henry Cook. (Laughter and applause.)

Dr. Biddle (Wayne): I move the nominations be closed.

The motion was seconded, put to a vote and carried.

Speaker Pyle: There being no dissenting voice, the chair declares Henry Cook elected as councilor of the 6th District.

Secretary Warnshuis: There have been nominated to the House of Delegates for honorary membership, Dr. L. A. Rowland of Grand Rapids, Kent County Medical Society, Dr. S. L. Rozema of Grand Rapids, member of the Kent County Medical Society, and Dr. H. B. Kiehle of Lapeer, Michigan, and Dr. Reed of the Northern Michigan Medical Society.

Those are the only nominations which have come to your Secretary.

Dr. Foley (Alpena): I would like to place in nomination the name of Dr. Harney, who has been practicing for forty-six years.

Dr. Cook (Genesee): I will support that nomination.

Dr. Riley (Jackson): I would like to place in nomination the name of Dr. Fred W. Rogers of Jackson.

Dr. Traynor (Mecosta): I would like to place in nomination the name of Dr. G. O. Switzer of Ludington for honorary membership.

Speaker Pyle: The chair will entertain a motion to elect these gentlemen to honorary membership.

Dr. Brook (Kent): I move that the gentlemen who have been nominated here, and those presented by the Secretary, be elected to honorary membership.

The motion was seconded by Morris of St. Joseph, put to a vote and carried.

Vice Speaker Dutchess assumed the chair.

Vice Speaker Dutchess: The vice speaker will entertain nominations for the office of speaker for the ensuing year.

Dr. Biddle (Wayne): I move the reelection of our present speaker.

Dr. Whittaker (Wayne): I support the nomination.

Dr. Curtis (Wayne): I move the nominations be closed and we let him come in.

The motion was seconded by Morris of St. Joseph, put to a vote and carried.

Vice Speaker Dutchess: Will someone make a motion that the Secretary cast the ballot for Dr. Pyle as speaker for the ensuing year?

Dr. Carstens (Wayne): I so move.

The motion was seconded, put to a vote and carried.

Secretary Warnshuis: Mr. Vice Speaker, the Secretary does so cast.

Vice Speaker Dutchess: Gentlemen, it is now my pleasure to declare Dr. Pyle reelected, and to invite him to resume the chair.

Speaker Pyle resumed the chair.

Dr. Denham (Kent): Mr. Speaker: I think it showed a lot of crust on the part of our present Speaker for him to resign his chair to the Vice Speaker before there were any nominations before the house. He presumes a lot. (Laughter.)

Speaker Pyle: Dr. Denham feels your Speaker presumes a lot, but the presumption of innocence always goes for the accused unless he is proven guilty.

Gentlemen, at this point, I wish to thank the committees that I have appointed for working as diligently as they have done. We come here partly for the sake of organized medicine, but there is work to be done. For instance, this morning I noticed Dr. Stapleton, Jr., of Detroit, couldn't be here to serve as chairman of the Credentials Committee, and Dr. Hasley came forward and did that work very well. He had to sit in the back room and count names, so he even missed the Speaker's address.

The Business Committee did a lot of work when others were doing the things they would rather have done, and I want to thank all the Committees, on behalf of the assembly, for doing this splendid work.

As far as a speech upon my returning to office is concerned, I feel this is a vote of confidence and I appreciate it.

The chair will now entertain nominations for the office of vice speaker.

Dr. Hirschmann (Wayne): Our present vice speaker has really carried on the duties of his office in an excellent manner, even though he was so confused he wanted to leave the chair without declaring our speaker elected. So I take pleasure in nominating Dr. C. E. Dutchess as vice speaker to succeed himself.

Dr. Andrews (Kalamazoo-Allegan-Van Buren): I move the nominations be closed and the Secretary be instructed to cast the ballot for Dr. Dutchess of Wayne.

The motion was seconded, put to a vote and carried.

Secretary Warnshuis: Mr. Speaker, your Secretary does so cast.

Speaker Pyle: Your Speaker declares Dr. Dutchess elected as vice speaker for the ensuing year.

Is there any unfinished business?

Dr. McKean (Wayne): Before we adjourn, I think it would not be out of place possibly to wire to Governor Brucker that the medical profession stands ready in the present, as well as any other, emergency to meet any demands made upon it. I think it would be well for us to express our willingness to stand in that capacity, and also in anything that may turn up in the future.

I make that as a motion, that the Secretary be empowered to send such a telegram.

The motion was seconded by Morris of St. Joseph, put to a vote and carried.

Dr. Traynor (Mecosta): I think it would not be out of place to send a telegram to Dr. Dodge of Grand Rapids, expressing our regret that ill health prevents his attending this meeting. He is a past-president of the Society and has been very active in the past. I think he would appreciate it.

The motion was seconded by McKean of Wayne, put to a vote and carried.

Dr. Whittaker (Wayne): It was mentioned here today and did not become a regular order of business, that the councilor district of Wayne, which is divided into A and B districts, has caused considerable confusion. If a discussion of the matter could be placed on the order of business without being entirely out of order, I would like to discuss it.

Secretary Warnshuis: In answer to Dr. Whittaker, I might say that before we adjourn the Chairman of the Council has a supplementary report to make upon that question.

Dr. Corbus (Chairman of the Council): Mr. Speaker, Members of the House of Delegates: The Council suggests that this body divide the two councilor districts which are composed of Wayne County, by using terms which are less confusing than the terms in use at this time, taking the districts which are now marked A and B and making the district east of Woodward Avenue, District No. 1, and the district west of Woodward Avenue, District No. 16.

That will necessitate action by this body.

The Council also takes cognizance of the resolution passed by this house, which was brought before it by Dr. Whittaker of Wayne, and will promptly appoint a committee to take over the survey suggested in the resolution.

I think that is all the Council has to offer at this time.

Dr. Whittaker (Wayne): I move that the councilor district situated in the eastern part of Wayne County, now known as Councilor District No. 1, continue to be so called, and the councilor district situated in the western part of Wayne County, west of Woodward Avenue, now called District B of District No. 1, be called Councilor District No. 16.

The motion was seconded by Morris of St. Joseph, put to a vote and carried.

Dr. Brook (Kent): If it is in order, I would like to move that this House of Delegates tender to the Oakland County Medical Society a vote of thanks for their very courteous reception and generous entertainment in an effort to make this meeting a success.

The motion was put to a vote and carried.

Dr. Ekelund (Oakland): I rise to accept the thanks and to say that after such a strenuous day I think we all need a bit of relaxation. Such relaxation is being provided at Oakland Hills Country Club, and each and every member of the Society, whether officer, council, or delegate, is cordially invited to repair thither following the adjournment of this session.

The meeting adjourned at eight-fifty o'clock.

Attest: F. C. Warnshuis, Secretary.

MINUTES OF GENERAL SESSION

Wednesday Evening Session

September 23, 1931

The first general session of the 111th Annual Meeting of the Michigan State Medical Society, held in the Tabernacle, Pontiac, Michigan, was called to order at seven forty-five o'clock by the President, Dr. R. C. Stone of Battle Creek.

President Stone: Ladies and Gentlemen: In opening the first general session of the 111th Annual Meeting of the Michigan State Medical Society, the Reverend Bates G. Burt, pastor of the All Saints Episcopal Church, will lead us in prayer.

Reverend Bates G. Burt: We will all rise, please.

Almighty God, source of all life and health and strength, who givest us both the will to serve men in their needs and distresses, and the wisdom to bring skill and science to their relief, we thank Thee for that spirit of service which bids men labor to assuage pain, and trains minds and hearts and hands of physicians and surgeons to make and keep our bodies healthy and strong.

We thank Thee for the vast progress in the science and practice of medicine which has been made under the inspiration of Thy spirit of truth and love. We thank Thee for the good example of all those who unselfishly dedicate their lives to the work of healing, and we pray that Thou wilt abundantly bless their labors, that the sorrows of this world may be relieved, and that disease may be banished from the face of the earth.

Grant that all those engaged in the work of healing may humbly look to Thee as the author and sustainer of all life's processes. Grant that the physician's work may ever be held in reverence and always done in kindness and in love. Give them patience and tenderness, sympathy and skill; imbue them with that passion for service which was His who went about doing good, Thy Son, our Savior.

May Thy blessing be upon this gathering tonight and may the deliberations of these sessions of the Medical Society further the relief of human pain and redound to Thy glory. We ask it all in the name of Jesus, our Lord. Amen.

President Stone: As you all know, we are assembled here in this lovely city of Pontiac as the guests of the Oakland County Medical Society, aiding in our way and helping in the celebration of their one-hundredth anniversary of the organization. We were happy to come to Pontiac for that reason, because any organization or any individual which survives a hundred years, should be aided in every way possible.

Dr. Farnham, the president of the Oakland County Medical Society, will welcome the Society at this time.

Dr. L. A. Farnham: Dr. Stone, Ladies and Gentlemen: The Oakland County Medical Society, on the eve of its one-hundredth anniversary, welcomes you to Oakland County, to Pontiac, and to this meeting.

I have been honored to bring you this message because I happen to be the president of the Oakland County Society. My message, of course, is particularly to those who are members of the state medical organization, which we are especially entertaining. We are very glad indeed to have those who are interested in our program tonight, come and listen to it, but in presenting my short message, I am talking particularly to the members of the medical profession, and I am forced to say, frankly, that our inviting you here is entirely a selfish gesture on our part. We need you. We have lasted through one hundred years, but we get discouraged at times.

It seems to us that the progress of medicine, and particularly of organized medicine, is so slow; it seems to us that we fail in team work, we don't play good football, somehow. We do a lot of individual playing, or at least some of our members do, but it seems as if rarely do we all get into the game and accomplish the things that we want to do. And so, we need just this kind of thing to start us off anew, to give us new courage, to make us feel that, after all, we have accomplished something in the last one hundred years. It is only by looking back that we are able to see those things clearly and demonstrate them to ourselves.

And so, as I started out to say, my message is one of welcome to all of you, to Oakland County, to the homes in Oakland County, to the industry of Oakland County, to the lakes and the clubs of Oakland County. We want you to have a good time. We want you to have a profitable time. We want you to come back again, if you will.

But, particularly, in giving this welcome, we want to say something more—we want to wish that this may be the greatest meeting that the State Society has ever had. Now, that may be asking a good deal. If so, we don't wish to be unreasonable, but that is our wish, that this shall be the greatest and most profitable medical meeting that the State Society has ever had.

It is our wish that from this meeting we shall go to our homes with a little greater knowledge, a little greater faith, a little greater courage, so that we may go on with this work in a little better way, so that as a result of this meeting the medical profession may be definitely and positively advanced, and by that advance the people of the State of Michigan may be definitely and positively benefited.

I thank you. (Applause)

President Stone: Thank you, Dr. Farnham. We want to say to you and to your organization that you are splendid hosts and we are having a wonderfully fine time in your community.

The Secretary, Dr. Warnshuis, has a few announcements which he wishes to make at this time, and following that he will read a memorial to the members of the Society who have passed on during this past year.

Secretary Warnshuis: Dr. Stone, Members of the Society, Ladies and Gentlemen: The House of Delegates yesterday held three sessions. In addition to the regular transaction of their business, they had an election, and adopted certain definite resolutions.

The election resulted in the election of J. Milton Robb, of Detroit, as president-elect; Councilor of the 4th District, C. E. Boys; Councilor of the 5th District, B. R. Corbus; Councilor of the 6th District, Henry Cook; Delegate to the American Medical Association, L. J. Hirschmann of Detroit; and alternates, Dr. Perry of Newberry and Dr. Carl F. Moll of Grand Rapids. Dr. Pyle was reelected as speaker of the House, and Dr. C. E. Dutchess of Detroit was elected as vice speaker of the House. Kalamazoo was selected as the place for our next annual meeting.

By resolution of the House, a special meeting of the House of Delegates will be held sometime before the first of February this coming year, in order to consider a report and a survey that is to be made in the meantime of state welfare agencies and the health and medical services that are being rendered by various organized groups.

The House also adopted the so-called Shoulders resolution that petitions the Government of this United States to provide the soldiers with a bonus insurance in place of providing large institutions in the way of hospitals and homes for their care in the event of disability or disease, feeling that thereby we are rendering to the ex-service man greater service than we would by trying to institutionalize him in institutions that are created by the Government.

The House also directed the Council to investigate the possibilities of spreading the truths of scientific medicine through the means of radio, and that action will be followed up by an investigation by the Council and, if possible, the institution of such means for disseminating information regarding medicine.

The House of Delegates also directed the Secretary to convey to the Governor of this state the wholehearted coöperative service of the organized profession of Michigan in the solution of the economic problems that are now confronting the people, not only of this state, but also of the nation.

Secretary Warnshuis read a memorial to the departed members, at the close of which the audience arose for a moment in silent tribute to the dead.

Secretary Warnshuis: It is a matter of rather great satisfaction that in the organized efforts of medical men we have been led by leaders who have possessed qualities that make them leaders. These leaders have not sought the position to which they have been either elected or appointed. They are men who have been selected by their fellow practitioners, because they have done for medicine that which organized medicine is trying to do under an organized direction.

In all of the years of our State Medical Society, the one hundred eleven years we have existed, we point with pride to the presidents who have led us on from year to year, and it is true that in the past year the man who has occupied the office has met up to the standards of those who have gone before. It is, therefore, my particular privilege and pleasure to introduce to you President Stone, who will now deliver his annual address.

President Stone! (Applause)

President R. C. Stone read his prepared address. (See original articles, this issue.)

GOVERNOR'S ADDRESS

The audience arose and applauded as Governor Brucker was escorted to the platform.

President Stone: We are greatly honored in having as our guest and next speaker a man who needs no introduction to any audience in Michigan. Because of his deep interest in the health and welfare of our citizens and in the problems of the medical profession, he has accepted our invitation for this evening. He has been elevated to the highest office within the gift of our people. His responsibilities are great and the demands upon his time many. He is an orator, a man of high ideals and principles, and a gentleman.

It is indeed a great honor, a rare privilege, and a pleasure, for me to present to you the Honorable Wilber M. Brucker, Governor of Michigan. (Applause)

Honorable Wilber M. Brucker: Mr. President, Members of the State Medical Society, Ladies and Gentlemen, Friends of Michigan: I have just come from Detroit, where the great convention of The American Legion is in session, and for three days now I have been engaged in the greeting of every organization and group and division of that great war of thirteen years ago. I am not only tired, I am hoarse, not from shouting, but from talking, so you can appreciate the relief that is mine in getting out from the noise and the confusion and all of that, with the thousands and thousands who are there, to this quiet tabernacle in the presence of professional men and women, and those who are interested in thinking about the very serious and thoughtful problems of people, human beings, men and women, boys and girls—who are interested in the future of our race.

I heard a story which I must relate to you, or re-relate, about The American Legion convention. If you have ever heard one, you know the boys are rather boisterous in the way in which they shout. About eight years ago one of these conventions was being held in Kansas City and the boys had adjourned, but some of them had forgotten the convention was adjourned and they kept on meeting most of the night. It got to be one or two o'clock in the morning and they were shouting and the bands were playing and the bugles were sounding, and so on, and finally one woman in the hotel who had not been used to that sort of thing before, called the porter and said, "Can't you do something to stop those fellows? I haven't slept all night. I can't stand it. You have got to stop them."

But the porter shook his head sadly, and he said, "Well, lady there was a fellow who tried to stop them once, and he is hiding in a castle over in Holland right now." (Laughter)

I am very sure that the governor of the state has a multiplicity of duties, but I didn't know until the State Fair ten days ago that there was one duty the governor of the state has, and that is to auction off the prize champion steer at the State Fair. I got down there in the midst of all of the folks who were in the colosseum, who were judging and telling whether the judges were judging correctly, and they told me about this new duty. And I had to walk out into the center of that colosseum and be presented to this grand champion steer, or he to me. They had an auction block there, and a large hat and cane, and I was supposed to climb up there and auction off the steer.

I didn't know anything about auctioneering, except that I remembered, when I was a boy, they had to say something about, going, going, gone, and then someone got the animal or the article, or whatever it was. Ten thousand pairs of eyes I am sure were on me at that moment, because I never felt so ill at ease.

Well, the grand champion was auctioned off at $1 a pound. I perspired more that day than I did in all of my days in the practice of the law. But I got through and got down off the auction block to have the picture taken, and then I was to be through, when some friend came rushing up to me and said: "Well, that was fine. You are a better auctioneer than you are a governor." (Laughter)

I am very happy to accept the invitation of your Society to come here on the occasion of your annual convention. There is nothing that can keep me in Lansing, or in any other place in Michigan, when I think that some interest of Michigan is being served elsewhere, and I am glad that in Pontiac this week, and in the midst of all the confusion and round of meetings in Detroit, this invitation was accepted and I am here in spite of that other meeting—and I have never missed one in all of the thirteen years of The American Legion conventions—and that I came because of my now mutual interest with you in problems of state.

I found in my short experience in Lansing, following somewhat over twelve years of public service, that the problems of government may be classified and divided into those which are subjective and those which are objective in the serious business of government. There are those problems which are felt, largely as a matter of psychology, more than real, and then there are those which are very prac-

tical and real in the administration of government, and which practically affect everybody in the state.

Some of those problems I would but sketch tonight because of your particular interest, I know, in your own profession, but in order that you may have a well rounded view of state government, I would tell you just a word about some of the rest.

I find that all of the problems of government are somehow or other related and interdependent and integrated, and I do find also that there is no way in which one segment of government can be analyzed and looked over and fixed, such as a workman would upon a watch, but must, on the other hand, be very carefully analyzed in connection with the other functions of government, just as you would upon the operating table. I find that government is so closely integrated that that which affects one person adversely is very apt to affect the rest of the human system of government adversely, and now and then it is most helpful to diagnose the problems of government in advance and anticipate those things which are bound to arise if preventive measures are not indulged in.

I am sure that nobody outside of the medical profession could appreciate one-half what I have just said, because of your knowledge of the unity of the functions of the body, and I am trying to make the parallelism between the body politic and the body human so that the illustration may be apt.

Let me give, as an illustration, that anyone who thinks the problem of crime is isolated and by itself, had better have another thought on the subject. The problem of crime is closely integrated with the problem of the tax and the problem of the personality of those in government, with every bit of the institutional life of our state, including the feeble minded, the insane, and all the rest; yes, with the practice of law in the courts, and with medicine, and all the rest. The problem of crime is a problem that involves every bit of the whole scope of the rest of the problems of government.

The problem of taxation is likewise something that cannot be solved by saying, "Now, why don't you do this and then do that? and then your problem is solved." It depends itself upon every other factor in this whole equation, and whenever you take something from one side of the equal sign in this equation of government, you have got to take it from the other side if you are going to have the equation balance. And when you subtract from the interest in crime and its prevention, you have got to subtract from the sum total of the advancement of the civilized race to which we belong.

I hope I am not talking in parables tonight when I speak that way, but I am giving you the benefit of my humble observation on the subject of government, and I am tremendously interested in it. I don't know any group in the country that should be more interested in government than those who are interested in the lives of those who compose government.

The problem of crime in Michigan today is no different from that in the other states, perhaps, except that our proximity to Chicago and some of the cities of the Middle West have made Michigan, with its industrial life and its overflow, a cesspool in some places for the operation of those who would carry out that nefarious business. I have announced from time to time my ideas on that subject, and they are, I am sure, running along the line you have in mind, and they are in contravention somewhat with those who view crime as a sort of disease. I take issue strongly with that. There may be those who are diseased, who commit crime, but be not deceived, the great bulk of crime is committed by those who are wicked and depraved, and although that may secondarily be related to disease, it is primarily related to wickedness, immorality, and worse. Lose no sentiment on the subject of some of these men convicted and sent to our state penitentiary, and some not convicted because not apprehended, who commit those most atrocious crimes.

When I was on the Upper Peninsula three weeks ago and the news was telephoned to me from Marquette to Escanaba that Dr. A. W. Hornbogen of Marquette had been shot down by a lifer, who, with two others, rushed to one of the industrial houses to make good his escape, and turned guns upon themselves, and a fourth likewise, and I saw the hopelessness of combating it, of giving any more serious punishment, no matter what the man may do in prison, I began to shake my head and wonder whether, after all, the people of our state and our nation understand that these men who are there for life, with nothing more possible to be done with them to discipline them, have at their mercy perhaps everybody from the warden down, because of the inability to do more.

No, I am not pleading in any sense for anything. I just want the serious professional mind that is trained to think straight, to think straight through the problems of crime. You will say, "Why are those poor, little inoffensive gambling devices sometimes raided? Why are some of those so-called beer joints raided?" My friend who has had no experience in crime, may I say to you tonight that it is the protection of and the feeding upon just such nuisances as that, that makes possible the big gang warfares that result in the murders and worse, when the spoils are divided and not divided rightly, and when thugs and crooks—oh, you know the rest of the story.

And so I conclude what I say upon that phase of government by saying that that is integrated with the rest of the whole system, but it cannot be permitted to become a cyst, to enlarge and attract other cells of like nature into the cancer of government.

Then, there is in the field of taxation today a great and a burning problem, because of that which has occurred in the last twenty-four months. Need I recount what has occurred, nor the fact that instead of the depression being relieved during this past summer, it has continued? The great need today is for the American people to realize the cold, perhaps clammy, but nevertheless realistic, truth that instead of there being a green pasture mirage ahead this fall and winter, we are up against the stark naked fact that we are going to have a winter with unemployment. The sooner the American people understand the plain, unvarnished truth, the sooner these problems of government are dissipated, and the longer we hold our heads under the sand and say, "It can't be; some relief or some great thing is going to occur and change the whole course," the longer we are going to be prevented from taking the practical steps to prevent that which will be distress otherwise.

And so the problem of taxation is acute because, in the midst of the period of the greatest need, our ability to afford to pay is the least. Isn't that true in your own household? Isn't it true in your own professional life? Isn't it true in business, that at those times when the demands are greatest, the ability to meet those is the least?

Let me give one of my own illustrations that occurs to me now because of my contact with the group down in Detroit today. I was thinking of it as I marched along yesterday. Thirteen years ago, when we were overseas, we had been trained and trained and disciplined, and then the time came finally when we were sent up to the line. We left the rolling kitchen with its warm food about two

days or a day back, because of their inability to get to the front line of cars. Then we began the night march and the sleeping in the woods on the rain-soaked ground, and with the fatgue of the march, the lack of warm food, the bodily resistance being lowered by the sleeping on the ground, and the rain-soaked ground at that, it seemed every time we were summoned for the greatest test of the highest type of heroic courage, we were at the lowest, physically. I was thinking what a paradox that was, that in spite of that, we were able to give more, we were super-men in some respects, because we gave more than we could think today we ever could give. It is a physical fact I never could account for, except in the excitement.

It is true, nevertheless, that in these periods of depression, when the physical resistance and the mental and moral stamina are at the lowest ebb, the most is required of the American people. It has probably always been so; one of the inequalities, I suppose, of nature and of life. But when it is applied to government, it makes the raising of the question marks on the front page of the paper, and it accounts for the demonstrations by the demagogs and those who seek to take advantage of it.

Why, the situation is very much akin to the automobile which, on occasion in the winter, receives its most severe test, with the cold weather coming and bringing to the surface every imperfection of the mechanism, and that at the time when it is least able to afford to have this imperfection, which is latent within it, come to the surface.

So in government, at the time when we are least able to meet it, the problems of taxation are the greatest because the expenditures and the demands are the greatest. Why, in Michigan, as you know, we have a new hospital for the insane, with a thousand patients and all the overhead, and we have at least 500 more in the various other state mental hospitals, besides 600 more at the state prison at Jackson, and countless others sprinkled around over the state, more than last year, in the very height of the period of inability to afford it. And I say that only in connection with, and not in defense of, because it needs none, the program of rigid economy that I have espoused of this administration and from which no one will make me yield.

I believe that the way to settle a problem in government is to get after the problem directly, and I mean by that not any shortcut alone, but instead of using only the radius, to get it around the circumference as well, and one of the ways to get at the problem of taxation is to make less taxes necessary, instead of trying to find new ways to raise more money.

My friends, there are so many, many things I would like to talk about with reference to the relation of the state's problems to thinking minds, but I can't begin tonight to summon either the time or your patience, I know, but, ah, there are so many, many things in Michigan today just waiting the approach of those who are seriously inclined and not involved in any political backscratching contest, to get at and actually do. Oh, why is it that in government, whether it be local, state, national, or any other place, when folks think of it, they think, Why, that is something that has to do with the chess game or checker game of politics? Why can't we think—why can't the professionally trained mind think and lead our citizenry to think that, after all, government is as serious a business as the running of a professional lawyer's or doctor's office, and the running of some great corporate establishment that conducts the business of hundreds, yes thousands of people in this case; with the state of upwards of five million people, the business of so many that it is a tragedy not to give it the best you have?

I wish that somehow or other the public mind could come to conceive government in the sense of high public service and sacrifice, because to some in public life, instead of its being an advancement by way of the purse and private fortune, it is the rendering of public service at the expense of perhaps the private security of one's family and friends, and I know many men in public life who, enamored because of their career and their love for it, are rated for nothing under the sun except the thrill that goes with public service.

I stop to pay my respect to my associate here, who is my right hand man in Lansing, my Commissioner of Health, Dr. Slemons, a man of that very type, who works with me loyally, fairly, counselling well, and seeing that I make no mistake in the field of his advice. And I am glad that if there is nothing that government has in great amount to pay him, at least the honor and the respect of his fellow citizens and his professional associates is accorded to him upon occasions such as this. (Applause)

Yes, government is a very, very serious job. Two days ago the President was in Detroit. I was privileged to meet him and sit by his side, to visit with him, to see him off. I was impressed with the seriousness of his demeanor, the very, very sober way in which he carefully weighed his words, and with the evident ageing and the weighing pressure that made his look almost furtive as, in that great throng of 30,000 people, he entered the hall apprehensive of the displeasure, perhaps, of those who today are not getting every bit of the prosperity that they would like to have and would charge it upon somebody personified in government and heap upon him or them the abuse for that lack of prosperity.

I speak not partisanly when I say it: There never was a time in American life when the citizenry of our country should rally, not in any political way, but in a very helpful, personal way, to the support of government and those who are laboring in it. And I felt, myself, the need of the President for that staunch word of support instead of the destruction of criticism that goes the length and breadth, so easily indulged in, and when you feel the withering effects of it some day yourself, you may apprehend that I am right about this.

Then, there is another great field of government in which primarily, I suppose, you are more interested than the rest of that of which I have been talking, and that is the field of the regulatory administration of government. There are those who desire no regulation on any subject any time anywhere. I belong not to that school. There are those who object to any sort of supervisory control or regulation or limitation by the federal, state, or local government, and there have been, since the time our government was formed.

On the other hand, there is a school of thought in this country that believes in a strong central government, strong enough to protect the rights and the opportunities and all of the educational yearnings and desires of our people, and to that school I belong most emphatically. I think it is best illustrated by a story I heard of a Kansan who went down to New York, and he was looking up at the tall buildings when along came a New Yorker and trod on his toes. And the Kansan reached back his arm and hit the New Yorker on the end of the nose and knocked him flat.

The New Yorker made complaint to the nearest police officer, and the next morning the magistrate had the Kansan hauled before him for assault and battery, and the magistrate said to the Kansan, "Are you guilty or not guilty?"

"It is this way, Your Honor," said the Kansan, "I was looking up at the tall buildings. This is a country of liberty. I have the right to look up and see them, haven't I?"

"Yes," said the Judge.

"Well, the New Yorker came along and walked on my toes, and I started swinging my arms around. I have a right to swing my arms around, haven't I, in this country of liberty?"

"Yes," said the Judge, "you have."

And he said, "I swung them around and he got in the way of my fist and of course he got hit, and that is how it occurred."

"Well," the Judge said, "that is very ingenuous and you are right, this is a country of liberty. You do have the right to look at these buildings, you do have the right to swing your arms, but your liberty ends where that man's nose begins." (Laughter)

I think that will illustrate very largely the sane attitude of the American mind toward the licensure of those in private life who are involved in public business to the extent of the practicing of professional life and business in calling, and their contact with the men and women and the children of our state and nation.

We have in Michigan a number of boards and commissions that have charge of the different groups and the entrance doors, and we have statutes that more or less, and in some cases less, govern that supervisory regulation and the entrance to that tabernacle of the profession, and it is interesting to note the various views that are entertained on the part of some with reference to that. I think—and this is, of course, without any personal application to any one particular individual but to all of the groups and every part of the licensure of Michigan's different professional callings—that entrance door had best be well guarded, not primarily for those who are to profit by the practice, whether it be law, medicine, dentistry, or what not, but on behalf of the people of this good state who have the right to have the best there is. (Applause)

I would not say before any medical society or bar association of Michigan anything that would pander to the popular sense of that which would curry favor, and you would not expect me to come with some peculiar gift in my hand, but I do feel that the people of our state, and those of the sister states, but particularly our own, are entitled to the very best by way of protection and prevention and all that goes to make life, property, health and happiness, safer and better. They are entitled to the very highest caliber, not only technically, not only from the standpoint of skill, but also from the standpoint of moral purpose and plan, of honest speaking, upright manhood.

I think the professions in Michigan every now and then can well afford to have a house-cleaning, and every time I have seen that indulged in in government, when not done unreasonably, it has augured well and proved satisfactory as a disciplinary measure over a period of time.

The greatest trouble with our American people today, when they come to the law, is their absolute disregard of not only the fact that there is such a law, but that such a law is going to be enforced, and they think that by some hook or crook or device or artifice, somebody who is clever, a lawyer perhaps, is going to get beyond that. And I have no doubt, from my contact as attorney general of this state, and the assistance of the members of the state police some two years or more ago, that there are in the profession to which you owe your allegiance, those who are now engaged in the unlawful and illegal and dangerous, and worse, practice of medicine—those against whom, by reason of quackery and the holding out of nostrums and panaceas and devices that are plainly fraudulent, prosecutions ought to lie and continually and rigorously be pushed. I have no doubt that there are those who ought not only to be placed beyond the pale of the profession, but placed behind the bars, perhaps; if not banished from the profession alone, placed behind the bars for the dealing with human kind in such an inhumane and wrongful manner.

I know there are in my own profession, and there are in the different professions, those who are, of course, not as skilled as others. I mean not that. I know there are those of us in the professions who are clumsy in the way we do it. I mean not that. I know there are those who are inferior from the standpoint of actual preparedness and equipment. I mean not that.

I mean exactly what I say when I say, those who are practicing illegally and who have so far debased their honorable calling and the profession of their choice and their life by doing that which is wrongful and shameful, and worse, together with that gentry that have no right to practice medicine at all, and under the guise of some other way of evading and avoiding, are at-

tempting to treat human ailments and to heal and to see that folks pay their good, hard-earned dollars these days for that sort of quackery.

No, my friends, I have no patience for that, either, and I hope there will be an occasion when this State Board of Registration and Medicine, and the medical fraternity itself—and I do not limit it to the Board alone—will call upon this splendid body of State Police, small band as it is, but courageous, and determine, with no local influence to pull them off, to give the best they have to see that there is a thorough cleaning and that somehow or other the profession feels that it does mean something after all to continue in the practice of medicine in Michigan, and our people can likewise feel safe. (Italics ours)

I would apply that not alone to medicine. I think the dentists and others of the professional groups which have from time to time, during my occupancy of the attorney general's office, informed me of their particular requirements, likewise now and then need the services of just that sort of thing in making the licensure of that particular group mean something, not only to the group, but to the people they serve.

Tonight I not only wish I could understand your problems, but I wish I could get from you the viewpoint which is so necessary that a governor at the helm of the ship of state have. I take occasion here to thank many present for the sound advice they have given me in the field of not only curative medicine, but in the preventive as well, and the problems that are akin to government in that respect. I have had some splendid assistance from those who are interested in our state institutions and their continual high standards, but I shall seek to know more, and that is one of the reasons I like to come to a group of this kind, not to lecture nor to tell you, but to get from you the ideas and the ideals you have.

I have been told about the splendid work that has been done in Michigan in the last few years, and as a layman entirely unacquainted except through the person of my good relative, my cousin, Dr. Carl Brucker of Lansing, who has from time to time given me some very close and personal advice on the subject of the profession at large, I have, from reading as a layman and from advice otherwise, gleaned the fact that in the last two decades there has been a greater advance in the field of medicine and surgery—at least popularly that is our impression—than there has been in so many centuries before that time; that the best thought of our age and our generation is constantly being poured in the direction of research and the development of the betterment of the science; and instead of the practice of medicine being as it was wont to be in days long gone by, it now is pyramiding in the opening up of the vistas of information that have come from every direction and source of this enlightenment.

Oh, how splendid must be the name and the fame and the honor of a man who helps make the race better, safer, happier. We lawyers—and I speak now in the vernacular of my profession—are limited to the protecting and preserving of the property, and very largely, to that, and sometimes the person, of course, in the criminal courts, but oh, what must be the thrill that comes to a man who has saved a human life!

Mrs. Brucker is quite an admirer of the skill of a certain surgeon that she saw recently, who operated upon our little boy, and who, of course, brought him safely through, and she saw the delicateness with which a most serious operation upon the skull was being performed—not upon our child, but upon another—and she told me with the delight of one who three weeks later had been brought back to a sure recovery, "Why I was just like a person at a football game waiting for the ball to be put over the goal." She couldn't wait to hear how this fellow came out, after having seen that delicate operation, where the severing of just a tiny bit of the little tender nerve of whatever it was that was so close to that place where that man's life hung in the balance, would have been fatal. After seeing his wife and the four children outside, she was just panic stricken until she knew that it was a success.

Oh, you have no idea—yes, you have an idea, but you don't know—how we laymen feel on the subject of the interest, and the heart interest, of those in the profession of medicine who care, and I have no hesitancy in saying there are those who, how they impress us, they care not. Oh, how we love to see a person who, in the practice of medicine with relation to a human soul and body, doctor or surgeon, somebody who is treating some human ailment, how we love to see the heart interest that is poured into that, and how the average layman talks and talks and talks and can't talk enough about Dr. So-and-So who is actually going out of his way night and day caring for his patient. I know it means to you the giving of a part of your life, and that is public service, but, my friends, there is something beyond this little insignificant thing of practicing for a price. When you do that, you sell out, if you do that alone, and if that is the only thrilling urge that comes to you, you are poor indeed when you are paid at the end of the treatment.

No, there is something about the game that would appeal to me if I were a doctor, if I were a member of the Michigan Medical Society—and I certainly would be if I were. It seems to me I would have a thrill about this business that would match all of this comparison that I spoke about a moment ago, because we have such confidence in you and your ability to develop it.

I am informed that the University of Michigan and related agencies with which I am not entirely familiar, but would be willing of course, to give due credit from this platform, were I fully familiar with them, are engaged in coöperative effort, not only in seeing that the profession is given the best there is by way of counsel, consultation, and so on, but that there is an influence jointly with this Society in seeing that the people of Michigan are educated on the subject of protective, preventive, educative, and so on, measures in the field of medicine and the very common things about the human body. I think the day is past entirely when the profession desires to conceal under the veil of mystery the way in which common, ordinary things can be done to relieve suffering, and I think you have chosen wisely in putting on the campaign of public education and information, in seeing that our people are as highly advised as possible against all of these things that otherwise they would rush rashly into.

You have no idea how much that lessens the spread of these grapevine rumors, so to speak, how

it contributes to the peace of mind of our citizenry, and how, even at a time such as two weeks ago, when there was some little scare about this infantile paralysis, the soothing and calming advice of those who are in the leadership of thought of Michigan's medical science, Dr. Slemons, Dr. Vaughn, Dr. Bruce, Dr. Pritchard,—I can't mention all that I remember reading and knowing about —who got together and said, "Now, Michigan, be not afraid; this thing is going to be handled by the profession and we are watching it closely," there was a calm came over our people who might otherwise have gotten into a panic.

Or, it is fine to have this agency of yours and the relation it gives to our state and our people. You are on the front line, the very battlement of the average household. You may not go in it, all of you, but you go in it in your influence, and the doctor comes closest, not only to the little boy and the little girl, but in the tenderness with which he is viewed by the parents and the rest of the members of the family. And so tonight I give my respect to the five hundred physicians and dentists and those two great allied professions for having gone to the people and talked to 160,000 of them in the last year, I am informed, upon the subject of the ordinary preventive measures and remedies and the way in which to make a better, healthier life.

I am glad that as a layman I can see your picture of it to the extent that not only is it the object of this whole business to prevent disease, but to go the next step beyond the absence of disease, and that is positive health or the having of a robust, vigorous, healthy body, and the preachment to our people of the things which will give and bring that about.

Oh, when a man is healthy, what can't he do. When he gets up fresh in the morning and has all of the rest from the toil of the day beyond him and behind him, and is ready to get to the rigor of the battle of that day, what a different man he is in his thoughts and conclusions from the man who at four-thirty in the afternoon is fatigued and tired, irritated and annoyed and harassed by telephone bells and all sorts of people under the sun, mendicants, and so on. How different is his state of mind in arriving at the conclusions of life.

So I say to you tonight, the governor of the state can well pause in the busy round of his life if for no other reason than to say to you, that I pay my respect to the profession of which you are all members. Michigan has confidence in its leadership and in its professional followers in the medical field. But we must go further than that. We must continue this work. We must continue it for the benefit of our people. It all must be calculated and pointed toward the betterment of this people of ours and not the selfish desire of any one of us. When that comes about, verily there will be public acclaim and the medical profession will have come truly into its own.

My friends, I want you to know that although the great problems of the Government of this state may in some measure have absorbed the most of my time, and I am most interested now in that problem of unemployment and the getting of common, ordinary jobs this winter—and by the way, I read in the paper as I left my hotel to come out here tonight, of a resolution passed by this Society. I think that is one of the most splendid things you could possibly have done. It is so personal to me and to the state Government that I appreciate it beyond words. I refer to the resolution with respect to your determination to assist in any way you can in this unemployment work of the winter, to see that we come through, ride the gale, and see next spring right side up. Thank you so much for that. If every professional group would voluntarily step out and do that, and then show that they mean it by doing everything they possibly can, how much it would mean.

I want you to know that although unemployment is big, the problem is enormous, as are all the rest of these things that I have spoken about tonight, I have by coming here renewed at least my perspective in getting acquainted again with the problem of the licensure of Michigan with respect to its great professions, one of which you represent. I hope constantly to be advised in this field. I hope I may so conduct myself and recommend to the next session of the Legislature such legislation which I hope I shall have time and advice to complete, which I am already studying now, that it may truly represent the wishes of those who are sincere in making medicine and the practice of it attain to the best interest of Michigan people.

My friends, I am happy for the invitation. Good night.

The audience arose and applauded.

President Stone: Governor Brucker, we are indeed very grateful to you for having come and delivered this message to the medical profession and the people who are here. And I want to assure you, as president of this organization, and on behalf of the officers and the membership, that if there is anything at any time that we can do to be of help to you in your governmental problems, all you have to do is ask for that assistance and it will be forthcoming.

We should be very grateful to Governor Brucker for coming out here. Governor Brucker had a very difficult time in arranging his program this week, to make it possible to come out during the hour or so he is here, and I know those who do not belong to our profession express with me our pleasure in having him with us.

INTRODUCTION OF PRESIDENT-ELECT

For the first time in the history of the Michigan State Medical Society, we are in a rather unique position. I, in a few minutes, will no longer be your president, but as it happens, I still am at this time. We have a president-elect who in a few minutes will be a president, and we have another gentlemen who was elected president-elect at the meeting of the House of Delegates last night.

I am going to ask Dr. Carstens and Dr. Brunk of Detroit to escort Dr. Robb to the platform.

The audience applauded as Dr. Robb was escorted to the platform.

President Stone: Ladies and Gentlemen: It gives me great pleasure to introduce to you Dr. J. Milton Robb, who, in a few minutes, will be our president-elect for the ensuing year.

Dr. J. Milton Robb: Members of the Michigan Medical Society, Honored Guests, Ladies and Gentlemen: It is an all abiding privilege for me to be here tonight, particularly when you have bestowed that position upon me. If I were here under different circumstances, I might not feel that perhaps I was wanted, but since, by unanimous consent, you have asked that I do the best I can for you, at a later date, as president of this organization, it gives me great pleasure to be here, and I want to thank you for your kindness and consideration and say that I appreciate very much what you have done for me.

You will notice, too, that the president who is going out and the president who is coming in, are dressed differently than I am. The fact is, so far as I am concerned, I am a neophyte; I should have on a freshman's hat. But I hope in a period of a year or two, with their aid and with your aid, I will be able to serve you well.

I want to tell you, too, that it has been a great pleasure to hear Governor Brucker speak tonight

on the attitude he takes toward medicine and the problems of government. It is a pleasure to meet him. This is the first time I have had that privilege, and I hope I may have the same privilege many times in the future. A man of his years—because you know the fact is, he is younger than I am—who has the insight and the ability to conduct the problems of government the way he is doing, deserves all the confidence that this profession can give him.

I thank you. (Applause)

INSTALLATION OF PRESIDENT MOLL

President Stone: Dr. Moll, will you kindly step forward?

Dr. Moll, the Michigan State Medical Society at its last annual meeting honored you by electing you to the office of president-elect of that organization for the past year. You are now being further honored by being elevated to the office of president of this Society for the coming year. In the proper discharge of your duties during the coming year, you will find it necessary to make many sacrifices of your personal pleasures and your time, your compensation for which will be your many contacts, new and firmer friendships, and the knowledge that you are serving this Society, that the high ideals and standards of scientific medicine are being maintained and the public health and welfare of the state of Michigan thereby being better served.

I know that your service to this organization will be conscientiously given and that you will perform the duties of your office with honor to the Society and credit to yourself.

As I pin upon you the badge of the office of president and turn over to you the office, I want to extend to you my most sincere congratulations and best wishes for your success, as well as the progress of the Society.

And now, ladies and gentlemen, it gives me great pleasure to introduce, or rather present, to you, Dr. Carl F. Moll of Flint, President of the Michigan State Medical Society for the coming year. (Applause)

President Moll: Dr. Stone, Distinguished Guests, Ladies and Gentlemen: I thank you for the great privilege you have given me at this time of expressing my appreciation of the honor you have conferred upon me. I am not unmindful of the fact that this honor carries with it many responsibilities and demands. I cherish the hope that I may meet these responsibilities with a firm courage and good judgment tempered with a spirit of tolerance.

We have listened to the address of President Stone, a presentation of the various foundations that it has been the privilege of this great Commonwealth of Michigan to receive from its public-spirited citizens. The medical profession at this time have a wonderful opportunity—more than an opportunity—a duty, to help direct and influence, and coöperate in every way possible, so that the future boys and girls of this state may receive the full benefit of social and health betterment from these various foundations and institutions.

We must at this time guide public opinion, we must gain public confidence, we must prove to the public by our deeds and actions that any benefits that come to us will be returned to them many times in health dividends. We must cultivate a spirit of civic consciousness in the practice of medicine. We must so act and do that the public will know when we prove to them that we have higher ideals than merely to adversely criticize legislation, licensure legislation, and the licensing of illy trained or ill prepared practitioners of the healing art.

Efficient medical service is one of the great demands of the public—efficient medical service that is not beyond the financial means of these same people. We have a wonderful opportunity. It is not as individuals. We must be something more than just good doctors. We must help solve these economic health problems. We must be leaders in this forward movement. We must assume our responsibilities of safeguarding the public health. It is by these means and issues that we will be tried, and I am sure that when the final time comes in any crisis, we will not be found wanting.

As a very recent example, in the epidemic of infantile paralysis, your President, Chairman of the Council, and Secretary showed, by their prompt action in getting together in coöperation with the Department of Health, their willingness to do all they possibly could. They prepared a serum of convalescent blood of former patients and they organized the state into districts, and when public funds were not available, they not only gave of their services, but of their money to help fight this dread disease.

An appraisal of the future is best made by the experiences of the past, and I am sure that this premise is well founded and that the public will have our assurance that we will do all that we can to aid the betterment of human health. My wish is that a year from now, I can come back to you with a good record of my stewardship. (Applause)

The meeting adjourned at nine forty-five o'clock.

SECOND GENERAL SESSION

Thursday Evening Session

September 24, 1931

The second general session of the 111th Annual Meeting of the Michigan State Medical Society was called to order at eight o'clock by Dr. L. A. Farnham, President of the Oakland County Medical Society.

Chairman Farnham: Ladies and Gentlemen: Last night it was my privilege to welcome the State Medical Society to Oakland County and to Pontiac. Tonight I appear on a different program and I will try to explain briefly this double-barreled program that the medical men of Pontiac are trying to provide for your enjoyment.

We are celebrating our one-hundredth anniversary as an organized medical society, that is the Oakland Society. The State Society, at the same time, is honoring us by coming to Pontiac for their one hundred eleventh annual meeting.

This program tonight is under the auspices of the Centennial Committee. In other words, it is being sponsored not particularly by the State Society, but by the Oakland County Society, and I, being president of that Society momentarily, am therefore chairman of this meeting, and it gives me a great deal of pleasure to welcome you here to this centennial meeting. We feel that it is going to do us good as a society, and we hope that incidentally it may do you good as the people of Pontiac, for I take it a large percentage of you are people of Pontiac and of Oakland County, because if we are better doctors, we ought to take better care of you.

We do find that it is easy to get discouraged in our profession, not particularly at all times because the banks fail and because people aren't employed, but because we find a great deal of discouragement in our own professional work, of which many of you have only a very vague idea. So to get our professional brethren from up state, from the neighboring towns, and from distant states, to come here and talk to us on medical subjects, to encourage us by showing us that the world is wagging on in medical science as well as other ways, is really worth while to us.

As our first speaker this evening, I want to introduce to you the President of our State Society, and

I don't want you to get all puzzled and excited because he doesn't look like he did last night. Last night Dr. Stone of Battle Creek was president of the Michigan State Medical Society. Tonight Dr. Carl Moll, whom Dr. Stone introduced to you last night as president-elect, but who has now changed his role, is president and Dr. Stone is past-president. I am making this explanation so that you won't think that you were a victim of a prevarication either last night or tonight.

I am happy at this time to introduce Dr. Carl Moll of Flint, President of the Michigan State Medical Society. (Applause)

President Moll: Mr. Chairman, Guests, Ladies and Gentlemen: My old copy book says, "Well begun is half done." This is my first public appearance as President of the Michigan State Medical Society, and you will all agree with me the occasion is an auspicious one.

Pontiac has never entertained the State Medical Society before. In its one hundred years of existence this is the first time that we have been their guests. The program, the entertainment, everything, has been carried out in the most magnificent and splendid style, and I can assure you, Mr. President, that it will not be a hundred years, not fifty, probably not over eight or ten, before we will be very glad to be your guests again.

Thank you. (Applause)

Chairman Farnham: Thank you very much, Dr. Moll. I am very glad of that last assurance, because I had no hope of ever seeing the State Medical Society meet in Pontiac again.

I was assured the other night by Dr. Baker, who is the chairman of the Centennial Committee, that he expected to put on another centennial program in a hundred years from that night. (Laughter) Now, I have no doubt that he will be able to last that long, but personally, I don't expect to be able to last another hundred years, so if you come back in only eight or ten years, I might be here.

I want now to introduce the man who has done all of the work in the convention that has been held here—I mean all of the local work. We have had various committees doing the work, and this man has headed the whole thing up, and I want to state that if you hear some of the doctors say it was very poorly done, that is the part I did. If you hear them say it was very well done, that is the part that Dr. Robert Baker did. So at this moment I want to tell you and to give him the opportunity of explaining, if he likes, how he managed to entertain the group as well as he has.

He is not only the chairman of the Convention Committee, but he happens also be president-elect of the Oakland County Medical Society. The State Society for some years has elected their president a year previous to the time he is to take office. You noticed that Dr. Moll was not elected president this year. He was elected president-elect last year, and last night he simply took the office of president. So when I gracefully pass out of the office in a few months, Dr. Baker will take my place. The Oakland County Society is going to do it that way from now on.

At this time I want to present Dr. Robert Baker of Pontiac. (Applause)

Dr. Robert Baker: I am not going to take any of your time, ladies and gentlemen, because this isn't my program. I am done. The official part of the convention that I am concerned with is over. But I do want to say before you as citizens of Pontiac, and a good many of our doctors are here, that I am very grateful, as general chairman, to all my committees for their very fine assistance. What Dr. Farnham said is not true. I am not the show. I have had lots of very fine help, and I want to express publicly that I am very grateful to them, and Pontiac should be very grateful to the doctors who helped to make this convention a success.

And we are very grateful to the State Society for the opportunity of entertaining the convention. As Dr. Moll said, it is our first opportunity to ever entertain the State Medical Society. We hope it won't be our last. I don't expect to live one hundred years, I don't expect to be general chairman ten years from now, but are going to have you come back and we are going to try to do a better job than we did this year.

Thank you. (Applause)

Chairman Farnham: Thank you very much, Bob.

Now, I don't want you to get tangled up in this matter of Bakers, either. Fortunately, they are built differently and you won't need to think because I present another Baker as the next speaker, he is the same fellow. At least, if so, he must be some sort of a gymnast or something of that sort.

It happens that the Chairman of the Centennial Committee, which is the other barrel of this double-barreled medical gun, is Dr. Fred Baker of Pontiac, and he is going to explain to you, in as much detail as he wishes, the plans, the hopes, of this Centennial Committee. If any of you visited their exhibits down in the Presbyterian Church, you know they had something to show. And there is a contest which Dr. Baker will explain to you.

It gives me great pleasure to introduce to you at this time Dr. Fred Baker, the Chairman of this Centennial Committee. (Applause)

Dr. Fred Baker: Mr. President, Ladies and Gentlemen: The announcement of this Centennial program was made in the local papers and in the papers throughout the county. Possibly some of you read it, but in case you did not, I will announce again tonight that we are putting on an essay contest, basing it on the address of the evening by Dr. Fishbein. Both the teacher and the high school student who best writes up the salient points of Dr. Fishbein's address will receive a prize of $75. There will be a second prize of $25 each. There will be twenty prizes of $5 each.

These essays are to be of approximately 1,000 words. They are to be submitted within a period of two weeks, not later than October 8. You shall place upon it your name and address and mail it to me at the People's Bank Building in Pontiac.

There are three judges who will scrutinize these papers: namely, Mr. Conrad Church, managing editor of the *Daily Press,* Pontiac; Mr. Emil Lederle, the County Commissioner of Schools; Mr. George Kimball, Jr., of the Town and County Y.M.C.A.

The essays of the teacher and student winning the two first prizes will appear in *Hygeia,* the popular health magazine published by the American Medical Association.

Thank you. (Applause)

Chairman Farnham: Thank you very much, Dr. Baker. I am sure that is perfectly clear to you all.

And now, it gives me a great deal of pleasure to introduce the man who is to introduce the speaker. Perhaps you don't quite understand why it is necessary to do it that way, but as a matter of fact, I heard this man introduce this same person once before today, and he did it so very badly that he came to me afterwards and begged to have the opportunity to do it again. (Laughter) So under those circumstances, I am going to forego the pleasure and honor of introducing the speaker of the evening, and give that instead to Dr. Warnshuis, who is one of our distinguished medical men of Michigan. He is the Secretary of the Michigan State Medical Society; he is Secretary of the State Board of Medical Registration; and he is Speaker of the House of Delegates of the American Medical Association.

Now, if there were anything else that I knew about him, I would tell you, but those things I know to be true, and so it gives me a great deal of pleasure to introduce Dr. Frederick C. Warnshuis of Grand Rapids, Michigan. (Applause)

Dr. Warnshuis: Mr. President, Ladies and Gentlemen: The story is told—it is rather trite—of two Irishmen, two Scotchmen, and two Englishmen, who were out on a boat which was shipwrecked and they were stranded upon an island. On the first day, characteristically, the two Irishmen engaged in a fight. On the second day, likewise characteristically, the two Scotchmen organized a Caledonian Society, and on the third day the two Englishmen were standing around waiting to be introduced to each other. (Laughter)

That seems to be the situation today in regard to us who represent scientific medicine and you who are the public. Our relationship is somewhat the same. That is one of the purposes of the meeting this evening. It has been said that in the last hundred years scientific medicine has made more progress than it made in the previous five centuries, and it is also said that in the last forty years we have made more progress than we did in the previous sixty years.

Tonight in thousands, yes, tens of thousands of laboratories, tens of thousands, and yes, hundreds of thousands of workers are trying to uncover the hidden mysteries of disease and human disability, and we who have been engaged in the interests of our profession and the scientific discoveries, in endeavoring to apply them, have left behind you whom we seek to serve.

It has likewise been said that if scientific medicine made no more progress in the next twenty-five years, it would take you twenty-five years to catch up with us. We have realized that, and so we are turning back and trying to draw back the screen and show to you that which we can do to enhance your physical well-being and increase your longevity. Throughout the state of Michigan we are endeavoring to impart to the public that which scientific medicine can do for you. We are doing it throughout the nation and we are doing it throughout the world, and we have men who are giving themselves and their time in order to impart this information.

Tonight we are bringing to you, through the courtesy of your Oakland County Medical Society and its officers, and also the Michigan State Medical Society, a man who has done more to impart to the public that which scientific medicine holds for each one of you, than any other one man, Dr. Morris Fishbein, physician, editor of the *Journal of the American Medical Association,* the largest medical journal in the world, editor of *Hygeia,* the public magazine of human health, speaker, writer, one who knows and who can tell you authoritatively that which is of value to you.

So tonight it is my particular pleasure and privilege to introduce Dr. Morris Fishbein of Chicago. (Applause.)

Chairman Farnham: Dr. Fishbein, I want to thank you very, very much for that talk. I think the people here have shown very plainly that they enjoyed it. And I want to thank you gentlemen, Dr. Warnshuis and Dr. Moll and Dr. Baker, and all the rest of the medical men who have helped to make this program a success.

I want to assure you that we will not be able to talk to you every night nor every week nor every month in as interesting a manner as Dr. Fishbein has done, but I am very much gratified, and the Oakland County group are very much gratified to find that so many people are interested in this problem of health, this problem of the preservation of health, and the effort to push back the time when we all have to pass on.

Now, let us continue this mutual interest. We as physicians try to be interested in you. Will not you as citizens of Pontiac and as people who must be more or less subjected to our ministrations, will not you be more interested in yourselves and in us in our effort so to do?

We thank you very much for coming out this evening and showing your interest, and we hope that this mutual interest may continue. (Applause)

The meeting adjourned at nine twenty-five o'clock.

DELEGATES ROLL CALL—111TH ANNUAL MEETING

Delegates—Annual Meeting—Pontiac, September 22-24, 1931

Antrim - Charlevoix - Sheboygan - Emmet — D. C. Burns.
Berrien—W. C. Ellet.
Calhoun—C. S. Gorsline, A. T. Hafford.
Cass—W. C. McCutcheon.
Clinton—F. E. Luton.
Eaton—K. A. Anderson.
Genesee—J. T. Connell, G. J. Curry, F. E. Reeder.
Gratiot-Isabella-Clare—T. J. Carney.
Houghton—Alfred LaBine.
Ingham—Karl Brucker, L. G. Christian.
Ionia-Montcalm—P. C. Robertson.
Jackson—J. J. O'Meara, Philip Riley.
Kalamazoo—F. T. Andrews, A. A. McNabb.
Kent—J. D. Brook, R. H. Denham, A. V. Wenger.
Lapeer—C. M. Braidwood.
Luce—H. E. Perry.
Marquette-Alger—Vivian Vandeventer.
Mason—L. W. Switzer.
Mecosta—Thos. P. Treynor.
Monroe—S. J. Rubley.
O. M. C. O. R. O.—Claude R. Keyport.
Oakland—C. T. Ekelund, F. A. Mercer.
Ottawa—A. E. Stickley.
Saginaw—O. W. Lohr.
St. Clair—A. L. Callery.
St. Joseph—C. G. Morris.
Shiawassee—I. W. Green.
Tuscola—John G. Maurer.
Washtenaw—Theron S. Langford, John A. Wessinger.
Wayne—Norman M. Allen, Joseph H. Andries, L. Byron Ashley, Andrew P. Biddle, A. E. Catherwood, John L. Chester, Norman E. Clarke, J. D. Curtis, C. E. Dutchess, Basil L. Connelly, Bert U. Estabrook, L. J. Gariepy, Clyde K. Hasley, L. T. Henderson, L. J. Hirschmann, Charles S. Kennedy, Charles Lakoff, Henry A. Luce, Richard M. McKean, Grover C. Penberthy, H. W. Plaggemeyer, William S. Reveno, Albert H. Whittaker, Wm. P. Woodworth.
Total 63.

REGISTRATION—ANNUAL MEETING

Pontiac, September 22-24, 1931

Antrim - Charlevoix - Cheboygan - Emmet.—Dean C. Burns, Petoskey; W. Earle Chapman, Cheboygan; F. F. Grillet, Alanson; William H. Parks, Petoskey; James R. Stringham, Cheboygan; B. H. Van Leuven, Petoskey.

Bay County.—A. D. Allen, Bay City; Charles H. Baker, Bay City; G. M. Brown, Bay City; R. N. Sherman, Bay City; C. S. Tarter, Standish; Paul R. Urmston, Bay City.

Berrien County.—W. C. Ellet, Benton Harbor; J. J. McDermott, St. Joseph; Carl A. Mitchell, Benton Harbor; Herbert O. Westervelt, Benton Harbor.

Branch County.—Samuel Schultz, Coldwater.

Calhoun County.—Manley J. Capron, Battle Creek; E. M. Chauncey, Albion; J. E. Cooper, Battle Creek; E. L. Eggleston, Battle Creek; C. G. Fahndrich, Battle Creek; W. L. Godfrey, Battle Creek; C. S. Gorsline, Battle Creek; A. T. Hafford, Albion; Geo. C. Hafford, Albion; H. A. Herzer, Albion; K. B. Keeler, Albion; A. D. Sharp, Albion; Ray C. Stone, Battle Creek; Carl G. Wencke, Battle Creek.

Cass County.—W. C. McCutcheon, Cassopolis.

Clinton County.—F. E. Luton, St. Johns; D. A. MacPherson, Fowler; W. A. Scott, St. Johns.

Eaton County.—K. A. Anderson, Charlotte; Albert Stealy, Charlotte.

Genesee County.—John C. Benson, Flint; Leon M. Bogart, Flint; A. T. Bonathan, Flint; Frederick Brady, Flint; Donald R. Brasie, Flint; B. E. Burnell, Flint; Max Burnell, Flint; M. S. Chambers, Flint; John H. Charters, Flushing; Clifford P. Clark, Flint; C. W. Colwell, Flint; John T. Connell, Flint; Robert C. Conybeare, Flint; Henry Cook, Flint; F. L. Covert, Gaines; George J. Curry, Flint; E. G. Dimond, Flint; Stephen M. Gelenger, Flint; Geo. R. Goering, Flint; G. L. Gundry, Grand Blanc; L. R. Himmelberger, Flint; Harry W. Knapp, Flint; George W. Logan, Flushing; Julia Lundstrom, Flint; R. Bruce Macduff, Flint; J. A. Macksood, Flint; J. G. R. Manwaring, Flint; W. H. Marshall, Flint; A. McArthur, Flint; R. W. MacGregor, Flint; Frederick B. Miner, Flint; Carl F. Moll, Flint; Ray S. Morrish, Flint; V. H. Morrisey, Flint; Ira D. Odle, Flint; J. W. Orr, Flint; H. E. Randall, Flint; Frank E. Reeder, Flint; Orill Reichard, Flint; A. J. Reynolds, Flint; Robert D. Scott, Flint; Leighton O. Shantz, Flint; Robert A. Stephenson, Flint; W. T. Trumble, Flint; W. G. Wall, Davison; D. R. Wark, Flint; Amos S. Wheelock, Goodrich; Herbert T. White, Flint; G. L. Willoughby, Flint; L. L. Willoughby, Flint; J. F. Wixted, Flint; D. R. Wright, Flint.

Gratiot-Isabella-Clare.—W. E. Barstow, St. Louis; M. B. Beckett, Mt. Pleasant; Thomas J. Corney, Alma; Chas. F. DuBois, Alma; F. J. Graham, Alma; Alton Deane Hobbs, St. Louis; E. T. Lamb, Alma; R. B. Smith, Alma.

Grand Traverse.—Jay J. Brownson, Kingsley.

Hillsdale County.—Burt F. Green, Hillsdale; Chas. L. Hodge, Reading; J. H. Johnson, Hillsdale; E. A. Martindale, Hillsdale.

Houghton.—Robert B. Harkness, Houghton; Alfred Labine, Houghton; W. B. Holdship, Ubly.

Ingham County.—Karl B. Brucker, Lansing; Earl I. Carr, Lansing; L. G. Christian, Lansing; C. P. Doyle, Lansing; O. H. Freeland, Lansing; E. G. McConnell, Lansing; J. Earle McIntyre, Lansing; H. A. Miller, Lansing; Frank A. Poole, Lansing; Thomas M. Sanford, Lansing; Fred L. Seger, Lansing; Milton Shaw, Lansing; George C. Stucky, Lansing; T. P. Vander Zalm, Lansing; H. B. Weinburgh, Lansing.

Ionia County.—J. J. McCann, Ionia; Chas. T. Pankhurst, Ionia; A. B. Penton, Smyrna; Perry C. Robertson, Ionia; J. W. Toan, Portland.

Jackson County.—Ferdinand Cox, Jackson; L. J. Harris, Jackson; William E. McGarvey, Jackson; Jason B. Meads, Jackson; C. D. Munro, Jackson; J. J. O'Meara, Jackson; E. S. Peterson, Jackson; Philip Riley, Jackson; T. E. Schmidt, Jackson; George A. Seybold, Jackson.

Kalamazoo County.—F. T. Andrews, Kalamazoo; C. E. Boys, Kalamazoo; Ralph B. Fast, Kalamazoo; John B. Jackson, Kalamazoo; A. A. McNabb, Lawrence; B. A. Shepard, Kalamazoo.

Kent County.—E. B. Andersen, Grand Rapids; J. D. Brook, Grand Rapids; L. D. Bumpus, Grand Rapids; Harrison Collisi, Grand Rapids; Burton R. Corbus, Grand Rapids; Chas. V. Crane, Grand Rapids; R. H. Denham, Grand Rapids; Ward S. Ferguson, Grand Rapids; Everett W. Gaikema, Grand Rapids; W. M. German, Grand Rapids; D. B. Hagerman, Grand Rapids; John T. Hodgen, Grand Rapids; Jack Hoogerhyde, Grand Rapids; A. M. Hill, Grand Rapids; Paul W. Kniskern, Grand Rapids; R. G. Laird, Grand Rapids; Harry Lieffers, Grand Rapids; J. D. Miller, Grand Rapids; A. M. Moll, Grand Rapids; William Northrup, Grand Rapids; W. W. Oliver, Grand Rapids; P. W. Patterson, Grand Rapids; Henry J. Pyle, Grand Rapids; H. C. Robinson, Grand Rapids; C. C. Slemons, Grand Rapids; R. Earle Smith, Grand Rapids; Carl F. Snapp, Grand Rapids; G. Howard Southwick, Grand Rapids; Ralph H. Spencer, Grand Rapids; Henry J. Vanden Berg, Grand Rapids; Harold E. Veldman, Grand Rapids; Merrill Wells, Grand Rapids; A. V. Wenger, Grand Rapids; William E. Wilson, Grand Rapids; Paul W. Willits, Grand Rapids; F. C. Warnshuis, Grand Rapids.

Lapeer County.—D. V. Auld, Lapeer; H. M. Best, Lapeer; C. M. Braidwood, Imlay City; D. W. Crankshaw, Imlay City; Rudolph Ripple, Lapeer; J. E. R. Smith, Imlay City; J. Orville Thomas, North Branch.

Livingston County.—Russell S. Anderson, Howell; Guy M. McDowell, Howell.

Luce County.—H. E. Perry, Newberry.

Macomb County.—A. B. Bower, Armada; Joseph M. Croman, Sr., Mt. Clemens; J. P. Letts, Romeo; George F. Moore, Mt. Clemens; Joseph H. Scher, Mt. Clemens; Alfred A. Thompson, Mt. Clemens.

Manistee County.—H. D. Robinson, Manistee; Harlan MacMullen, Manistee.

Marquette County.—R. A. Burke, Palmer; V. H. Vandeventer, Ishpeming.

Mason County.—L. W. Switzer, Mason.

Mecosta County.—Donald MacIntyre, Big Rapids; Thos. P. Treynor, Big Rapids.

Monroe County.—Philip D. Amadon, Monroe.

Muskegon County.—Frank W. Garber, Jr., Muskegon; Frank W. Garber, Muskegon; A. F. Harrington, Muskegon; Shattuck W. Hartwell, Muskegon; V. S. Laurin, Muskegon; George L. LeFevre, Muskegon; F. N. Morford, Muskegon; Constantine Oden, Muskegon; M. E. Stone, Muskegon; Chas. A. Teifer, Muskegon.

O. M. C. O. R. O. Counties.—Claude R. Keyport, Grayling.

Oakland County.—Vernon C. Abbott, Pontiac; Z. R. Aschenbrenner, Farmington; Frank S. Bachelder, Pontiac; Frederick A. Baker, Pontiac; Robert H. Baker, Pontiac; O. O. Beck, Birmingham; C. H. Benning, Royal Oak; A. Borland, Pontiac; Everett L. Bradley, Pontiac; Albert L. Brannock, Pontiac; Chauncey G. Burke, Pontiac; F. J. Burt, Holly; S. A. Butler, Pontiac; D. G. Castell, Pontiac; E. A. Christie, Pontiac; J. W. Christie, Pontiac; John Eugene Church, Pontiac; N. B. Colvin, Pontiac; L. F. Cobb, Pontiac; Ernest A. Cook, Pontiac; Aileen Betteys Corbit, Oxford; E. B. Cudney, Pontiac; Carl Dahlgren, Keego Harbor; Clifford Ekelund, Pontiac; Dwight M. Ernest, Pontiac; L. A. Farnham, Pontiac; Robert Y. Ferguson, Pontiac; Ralph G. Ferris, Birmingham; Harold A. Furlong, Pontiac; L. W. Gatley, Pontiac; Frank B. Gerls, Pontiac; Wm. A. Grant, Milford; W. M. Green, Pontiac; D. G. Hackett, Pontiac; Campbell Harvey, Pontiac; Hubert M. Heitsch, Pontiac; E. V. Howlett, Pontiac; D. F. Hoyt, Pontiac; T. W. K. Hume, Pontiac; H. A. Kling, Pontiac; John S. Lambie, Pontiac; Bert I. T. Larson, Pontiac; Frank A. Mercer, Pontiac; B. M. Mitchell, Pontiac; John D. Monroe, Pontiac; J. S. Morrison, Royal Oak; James J. Murphy, Pontiac; Arthur V. Murtha, Pontiac; Chas. A. Neifie, Pontiac; A. P. Ohlmacher, Royal Oak; H. H. Pool, Pontiac; Isaac C. Prevette, Pontiac; Fred T. Reid, Clawson; Aarond Riker, Pontiac; H. R. Roehm, Birmingham; Wendell H. Rooks, Pontiac; F. A. Scott, Rochester; George A. Sherman, Pontiac; Harry A. Sibley, Pontiac; W. T. Smith, Pontiac; L. H. Spencer, Royal Oak; Peter Stewart, Royal Oak; H. A. St. John, Pontiac; Chas. S. Strain, Rochester; C. J. Sutherland, Clarkston; Palmer E. Sutton, Royal Oak; M. J. Uloth, Ortonville; Perry Wagley, Pontiac; Walter I. Werner, Pontiac; Alec Whitley, Pontiac; W. W. Wiers, Royal Oak; S. F. Wilson, Birmingham; Harry B. Yoh, Oakland; Karl Zinn, Pontiac.

Ottawa County.—Arthur J. Brower, Holland; A. E. Stickley, Coopersville.

Saginaw County.—D. E. Bagshaw, Saginaw; F. J. Cady, Saginaw; A. J. Cortopassi, Saginaw; Cecil Ely, Saginaw; S. S. Keller, Saginaw; Rockwell Kempton, Saginaw; A. E. Leitch, Saginaw; Oliver W. Lohr, Saginaw; Martha Longstreet, Saginaw; Alexander R. McKinney, Saginaw; J. A. McLandress, Saginaw; F. O. Novy, Saginaw; John T. Sample, Saginaw; E. G. Schaiberger, Saginaw; Walter K. Slack, Saginaw; Stuart Yntema, Saginaw; Clarence E. Toshach, Saginaw.

Shiawassee County.—I. W. Greene, Owosso; A. M. Hume, Owosso; R. W. Teed, Owosso.

St. Clair County.—A. L. Callery, Port Huron; Thos. E. De Gurse, Marine City; T. E. Heavenrich, Port Huron; Wm. G. Wight, Yale; Roy A. Windham, Port Huron.

St. Joseph.—R. A. MacNeill, White Pigeon; Chas. D. Morris, Three Rivers.

Tri-County.—Stephen Fairbanks, Luther; S. C. Moore, Cadillac.

Tuscola County.—H. H. Kaven, Unionville; John G. Maurer, Reese; Annie S. Rundell, Mayville; U. G. Spohn, Fairgrove; Roy A. Townsend, Fairgrove.

Washtenaw County.—John Alexander, Ann Arbor; A. S. Barr, Ann Arbor; G. H. Belote, Ann Arbor; Park S. Bradshaw, Ann Arbor; James D. Bruce, Ann Arbor; Daniel Budson, Ann Arbor; Carl D. Camp, Ann Arbor; N. L. Capener, Ann Arbor; Frederick A. Coller, Ann Arbor; Howard H. Cummings, Ann Arbor; C. Georg, Ann Arbor; Conrad Georg, Jr., Ann Arbor; H. A. Haynes, Ann Arbor; Bert H. Honeywell, Ann Arbor; Carl P. Huber, Ann Arbor; Raphael Isaacs, Ann Arbor; Edgar A. Kahn, Ann Arbor; R. L. Kahn, Ann Arbor; A. Kerlikowske, Ann Arbor; Norman R. Kretzschmar, Ann Arbor; Theron S. Langford, Ann Arbor; F. H. Lashmet, Ann Arbor; Dorman E. Lichty, Ann Arbor; Walter G. Maddock, Ann Arbor; H. S. Millett, Ann Arbor; Geo. F. Muehlig, Ann Arbor; A. A. Palmer, Chelsea; John P. Parsons, Ann Arbor; Henry K. Ransom, Ann Arbor; P. A. Sheurer, Manchester; George Slocum, Ann Arbor; M. E. Soller, Ypsilanti; Cyrus C. Sturgis, Ann Arbor; John Sundwall, Ann Arbor; John A. Wessinger, Ann Arbor; P. C. Williams, Ann Arbor.

Wayne County.—Herman F. Albrecht, Detroit; Normen M. Allen, Detroit; Emil Amherg, Detroit; Joseph H. Andries, Detroit; L. Byron Ashley, Detroit; Clarence Baker, Detroit; Charles J. Barone, Detroit; Elden C. Baumgarten, Detroit; John N. Bell, Detroit; Niel Bentley, Detroit; Harry S. Berman, Detroit; Edward J. Bernstein, Detroit; Andrew Biddle, Detroit; Alexander Blain, Detroit; Arthur R. Bloom, Detroit; David S. Brachman, Detroit; W. N. Braley, Detroit; Osborne A. Brines, Detroit; Clark D. Brooks, Detroit; William L. Brosius, Detroit; A. O. Brown, Detroit; Gordon T. Brown, Detroit; Martin F. Bruton, Detroit; John Bryce, Detroit; Frederick G. Buesser, Detroit; Harry J. Butler, Detroit; Volney Butler, Detroit; C. P. Cake, Detroit; M. D. Campbell, Detroit; George L. Caldwell, Detroit; William I. Cassidy, Detroit; A. E. Catherwood, Detroit; Henry R. Carstens, Detroit; Henry D. Chadwick, Detroit; J. H. Chester, Detroit; Harry L. Clark, Detroit; Norman E. Clark, Detroit; Wm. R. Clinton, Detroit; Don A. Cohoe, Detroit; Basil L. Connelly, Detroit; Thomas B. Cooley, Detroit; Robert V. Cooper, Detroit; Henry R. Craig, Detroit; Albert S. Crawford, Detroit; James E. Croushore, Detroit; Robert E. Cumming, Detroit; J. D. Curtis, Detroit; Lewis E.

Daniels, Detroit; Milton A. Darling, Detroit; James E. Davis, Detroit; D. M. Davidow, Detroit; J. H. Dempster, Detroit; B. R. Dickson, Detroit; William M. Donald, Detroit; Bruce H. Douglas, Northville; Chas. E. Dutchess, Detroit; A. C. Edwards, Detroit; D. C. Ensign, Detroit; Arthur W. Erkfitz, Detroit; Bert Estabrook, Detroit; C. H. Ewing, Detroit; Harold B. Fenech, Detroit; Robert F. Foster, Detroit; Daniel P. Foster, Detroit; Wm. Fowler, Detroit; Louis J. Gariepy, Detroit; H. B. Garner, Detroit; L. A. Geib, Detroit; I. S. Gellert, Detroit; John Everett Gordon, Detroit; Gerald O. Grain, Detroit; Heman Grant, Detroit; J. H. Greenwood, Detroit; William A. Hackett, Detroit; J. T. Harper, Detroit; Voss Harrell, Detroit; Frank W. Hartman, Detroit; C. K. Hasley, Detroit; J. W. Hawkins, Detroit; L. W. Haynes, Detroit; Harold Henderson, Detroit; Leslie Henderson, Detroit; Louis J. Hirschman, Detroit; Robert D. Hislop, Detroit; F. L. Honhart, Detroit; John A. Hookey, Detroit; E. M. Houghton, Detroit; J. Hugh Lewis, Wyandotte; Ray W. Hughes, Detroit; R. C. Hull, Detroit; Warren G. Hyde, Detroit; R. G. James, Detroit; R. C. Jamieson, Detroit; E. V. Johnston, Detroit; George Kamperman, Detroit; Herbert S. Karr, Detroit; Edward W. Kay, Detroit; Thomas Keating, Detroit; Harther L. Keim, Detroit; Frank A. Kelly, Detroit; R. B. Kennedy, Detroit; Harry M. Kirschbaum, Detroit; Louis Klein, Detroit; Charles W. Knaggs, Detroit; Leo A. Knoll, Detroit; Ernest N. Krueger, Detroit; Charles F. Kuhn, Detroit; Charles Lakoff, Detroit; Harold H. Lampman, Detroit; B. Hjalmar Larsson, Detroit; Edward H. Lauppe, Detroit; Frederick A. Lauppe, Detroit; R. Lee Laird, Detroit; Charles E. Lemmon, Detroit; David J. Levy, Detroit; Charles J. Lilly, Detroit; R. E. Loucks, Detroit; Henry A. Luce, Detroit; S. C. McArthur, Detroit; Clarke McColl, Detroit; Roy D. McClure, Detroit; Frank T. McCormick, Detroit; R. W. McGeoch, Detroit; Arthur B. McGraw, Grosse Point; Richard M. McKean, Detroit; Geo. E. McLean, Detroit; Harold C. Mack, Detroit; W. G. Mackersie, Detroit; Clarence E. Maquire, Detroit; John C. Mateer, Detroit; Earl W. May, Detroit; E. V. Mayer, Detroit; Ignatz Mayer, Detroit; Willard D. Mayer, Detroit; Myron G. Means, Detroit; Lionel N. Merrill, Detroit; Harry C. Metzger, Detroit; Clinton, C. Mills, Detroit; Edw. G. Minor, Detroit; Robert C. Moehlig, Detroit; W. H. Morley, Detroit; John B. Morton, Detroit; Thos. F. Mullen, Detroit; Irwin Neff, Detroit; Harry M. Nelson, Detroit; Arthur K. Northrop, Detroit; William O'Donnell, Detroit; Fred W. Organ, Detroit; John K. Ormond, Detroit; Robert G. Owen, Detroit; Boleslaw Pasternacki, Detroit; Franklin B. Peck, Detroit; Howard W. Peirce, Detroit; Grover C. Penberthy, Detroit; O. W. Pickard, Detroit; Ralph Pino, Detroit; Harry W. Plaggemeyer, Detroit; Edgar E. Poos, Detroit; Andrew Potter, Detroit; Willis Potter, Detroit; B. H. Priborsky, Detroit; Allan Richardson, Detroit; William S. Reveno, Detroit; H. A. Reye, Detroit; J. M. Robb, Detroit; Worth Ross, Detroit; J. R. Rupp, Detroit; E. R. Rupprecht, Detroit; M. Sa'di Lufi, Detroit; Edward O. Sage, Detroit; Harry C. Saltzstein, Detroit Alexander W. Sanders, Detroit; Wm. G. Saunders, Detroit; Suzanne Sanderson, Detroit; Arthur E. Schiller, Detroit; Harry E. Schmidt, Detroit; Burton L. Schmier, Detroit; J. W. Scott, Detroit; Ward F. Seeley, Detroit; George Sewell, Detroit; Loren W. Shaffer, Detroit; Royce R. Shafter, Detroit; B. B. Sherman, Detroit; Wm. Shields, Detroit; R. J. Shute, Windsor; Roger S. Siddall, Detroit; C. E. Simpson, Detroit; Frank J. Sladen, Detroit; Merrill Smeltzer, Detroit; Emil Sorock, Detroit; Edward D. Spalding, Detroit; B. R. Springborn, Detroit; D. D. Stone, Highland Park; Claire L. Straith, Detroit; R. S. Taylor, Detroit; Alexander Thomson, Detroit; A. B. Toaz, Detroit; Franklin H. Top, Detroit; Cyril Valade, Detroit; V. L. Van Duzen, Detroit; C. C. Vardon, Detroit; George L. Waldbott, Detroit; Arch Walls, Detroit; Wm. G. Wander, Detroit; O. O. Watson, Detroit; Clarence E. Weaver, Detroit; C. N. Weller, Detroit; J. S. Wendel, Detroit; Max Wershow, Detroit; Neil J. Whalen, Detroit; C. H. Whitehorst, Detroit; Elmer L. Whitney, Detroit; Alfred H. Whittaker, Detroit; Archibald B. Wickham, Detroit; Fred Burnell Wight, Detroit; Arthur P. Wilkinson, Detroit; Charles A. Wilson, Detroit; Walter J. Wilson, Jr., Detroit; Walter J. Wilson, Detroit; Frank C. Witter, Detroit; G. H. Wood, Detroit; Wm. P. Woodworth, Detroit; Thelma Wygant, Detroit; H. Wettington Yates, Detroit.

GUESTS

Fred L. Adair, Chicago, Ill.; Arthur H. Curtis, Chicago, Ill.; Loyal Davis, Chicago, Ill.; Morris Fishbein, Chicago, Ill.; Thomas G. Hull, Chicago, Ill.; James P. Leake, Washington, D. C.; W. V. Mullin, Cleveland, Ohio; D. P. Phemister, Chicago, Ill.; Walter M. Simpson, Dayton, Ohio; C. H. Watkins, Rochester, Minn.; Charles E. Kiely, Cincinnati, Ohio.

ORDER A SET, OR SETS,
of
MICHIGAN'S MEDICAL HISTORY
For Christmas Presents

SOCIETY ACTIVITY

ANNUAL CLINICAL CONFERENCE

Conducted by
Jackson County Medical Society
Hayes Hotel
Jackson, Michigan
November 5, 1931

Fast Time

9:15 A. M. Cranial Injuries — F. C. Warnshuis, M.D., Grand Rapids.

10:00 A. M. Common Colonic Conditions —Manuel G. Spiesman, M.D., Chicago.

11:00 A. M. Untoward Results in Fractures—Kellogg Speed, M.D., Chicago.

Luncheon.

1:00 P. M. DeLees Technic of Forceps Operations (Moving Picture) —F. E. Whitacre, M.D., Chicago.

2:00 P. M. Nephritis and Urine Proteins —William A. Thomas, M.D., Chicago.

3:00 P. M. Arthritis—Ralph Pemberton, M.D., Philadelphia.

4:00 P. M. Unappreciated Hepatic Functions—Charles H. Mayo, Rochester, Minn.

The profession of the state is cordially invited to attend.

GUNSHOT WOUNDS AND ACCIDENTS. A NEW LAW

The last legislature passed a law that became effective September 18, 1931, that is of great importance to physicians.

This law makes it compulsory for every physician, surgeon, and hospital to report to the local police or sheriff's department every case of gunshot wound or automobile accident coming under a doctor's professional care. Failure to do so renders the doctor or hospital liable to a fine of $250.00 or ninety days in jail.

This is a mandatory law. Members are urged to fully observe it. Attorney's advise us that in reporting these cases one does not lay himself liable for violation of "professional relationship of patient and physician." The mandate of the law conveys immunity to such claims or rights.

MINUTES OF THE OCTOBER EXECUTIVE COMMITTEE MEETING OF THE COUNCIL

The Executive Committee of the Council met in the Hotel Durant, Flint, at 5:00 P. M., October 7, 1931, with the following present: B. R. Corbus, Henry Cook, C. E. Boys, George L. Le Fevre, James D. Bruce, Carl F. Moll, President, and F. C. Warnshuis, Secretary.

1. The Secretary presented a communication from the Secretary of the Bay County Medical Society requesting the Michigan State Medical Society to contribute $75.00 towards defraying the expenses of the Inter-County Medical Society meeting to be held in Frankenmuth on October 28, 1931. On motion of Bruce-Le Fevre, the request was granted and the expense charged to that of Post Graduate Conference.

2. The Secretary presented an extract of the action of the House of Delegates recommending that notes be accepted from members unable to pay their local and state medical dues. After considerable discussion, on motion of Le Fevre-Bruce, the Secretary was directed to accept such notes in lieu of state dues; the notes to run until December 15, 1932, and to draw interest at the rate of six per cent from date; further, that these notes are not to be accepted until the Board of Directors, the Executive Committee or the Officers of the county units issue a statement, accompanying each note, certifying that the maker is entitled to this credit.

3. The Secretary presented a communication from the Board of Trustees of the Wayne County Medical Society requesting the State Society to make a ruling that dues for 1932 may be paid in quarterly installments. Upon motion of Bruce-Le Fevre, the Secretary was directed to call to the attention of the Board of Trustees of the Wayne County Medical Society the policy adopted by the State Society to accept notes for dues from those members who are financially embarrassed, and to ask whether this will not solve the problem more satisfactorily and thus establish a uniform policy with no exceptions throughout the state.

4. The Secretary presented to the Executive Committee the resolution introduced by Dr. Whittaker of Detroit relative to a survey of the health agencies that are operating in Michigan. After a lengthy discussion President Moll appointed the following special committee created by the Whittaker resolution.

W. H. Marshall, Chairman, Flint.
L. G. Christian, Lansing.
Fred A. Baker, Pontiac.
C. S. Gorsline, Battle Creek.
Bert. U. Estabrook, Detroit.
F. C. Warnshuis, Secretary, Ex-officio.

The Council appropriated at the Annual Meeting in Pontiac the sum of $250.00 for the organizational expenses of the committee. After further discussion of the recent newspaper publicity that had been accorded to this resolution the Executive Committee formulated the following statement which was transmitted to the press of the state:

The officers and council of the Michigan State Medical Society desire, through your columns, to correct the interpretation of a resolution passed by the House of Delegates of the Michigan State Medical Society at their recent annual meeting and given front page publicity on October 2.

Certainly the physicians of the state have no desire to "fight state and privately owned health services," nor have they "declared war on public health groups." It is unfortunate that the lengthy resolution was so written as to make such an interpretation possible. The officers and council of the Wayne County Medical Society and the officers and council of the State Medical Society regret that more consideration was not given to the wording of the resolution by its sponsor group. The resolution was passed by the House of Delegates with the belief that a committee might well serve the public and the profession through making a survey of conditions as they exist.

There are a great number of health organizations concerning themselves with individual and community health problems with a very noticeable overlapping and duplication of their work. It is quite evident that a situation exists through which unnecessary expense is incurred, and the desired ends are not being attained.

A survey is necessary to obtain a proper appraisal to define and outline the field and scope of each organization's activity. It is for that purpose that the Michigan State Medical Society proposes to conduct an impartial survey with the hope that existing agencies may function in the best interests of the people of the state.

It is well that Michigan join with other groups throughout the country in the effort to solve this question of the cost of sickness which presses so hard and so unequally on those of limited means, and we would too protect ourselves, for we see the family doctor's income tending toward the vanishing point.

The officers and council are sure that they speak for the profession of the state when they state that they feel a great obligation to do their part in this period of unemployment. As indicative of this, they have but recently joined with the State Board of Health, the Children's Fund of Michigan, the Kellogg Foundation and the University of Michigan in the formation of the Infantile Paralysis Commission. In the absence of state funds available the State Medical Society has drawn from its own reserve its share of the funds needed to put on the campaign. It has drafted from its membership competent district directors to direct the work, to help get the serum, to help in the diagnosis, to give the serum, and all of this is voluntary, an accepted obligation to save little children from this dread paralysis.

Whether or not the committee of the State Society can, through a survey of the situation, bring a remedy to a most complicated situation, is perhaps a question. Certain it is that the profession has not changed its attitude, and is as willing to do its part in the care of the indigent as ever it was. The trouble is that in these days of health organizations, private and public, there is a feeling among the profession that they are asked to do a disproportionate share. At the annual meeting in Pontiac the Society, by unanimous vote, tendered to Governor Brucker the services of the Society in the care of the needy during this most trying period as additional evidence of the Society's desire to add to the public's welfare.

In conformity with the resolution, President Moll announces his appointment of a special committee.

Carl F. Moll, President.
B. R. Corbus, Chairman of the Council.

Attest: F. C. Warnshuis, Secretary.

Upon motion of Boys-Le Fevre, the President's appointments and the statement were approved.

5. The Secretary communicated to the committee the resolution of the House of Delegates calling for a special committee to investigate and report upon the possibilities of utilizing the radio for disseminating more information on scientific medicine and public health as provided for in the Stapleton resolution. On motion of Cook-Bruce, the following committee was appointed:

W. J. Stapleton, Jr., Chairman, Detroit.
Alfred La Bine, Houghton.
F. C. Warnshuis, Grand Rapids.

6. The Secretary presented the resolution passed by the House of Delegates requesting the Council provide a suitable badge for the Speaker of the House. Upon motion of Boys-Le Fevre, the Secretary was directed to provide such a badge.

7. The Secretary presented the petition, in accordance with the By-Laws of the Society, for a special meeting of the House of Delegates to be held on or before February 1, 1932. Upon motion of Bruce-Cook, the petition was tabled pending a report of the special committee that has been appointed to investigate and present its findings and recommendations to the House of Delegates.

8. The Secretary presented a communication from Dr. Collisi in which he called attention to the fact that in a paper presented before the section on Gynecology and Obstetrics he had recommended the appointment of a special committee to confer with the Michigan League on Birth Control. After discussion, on motion duly made by Le Fevre-Boys, the Secretary was directed to advise Dr. Collisi that it was not deemed advisable to appoint such a committee at this time and recommended in the event information and advice is sought from the profession in this state that the same should be requested from the Executive Committee of the Council.

9. President Moll transmitted the following as his official appointments to the Standing Committees of the Society:

(a) Legislative Committee:
Earl I. Carr, Chairman, Lansing.
G. C. Penberthy, Detroit.
Wm. C. McCutcheon, Cassopolis.
A. M. Hume, Owosso.
Wm. Hyland, Grand Rapids.

with the legislative committee of the Wayne County Medical Society acting in an advisory and coöperative capacity. Upon

motion of Boys-Cook the appointments were endorsed.

(b) President Moll nominated and appointed the following committee on Civic and Industrial Relations:

H. S. Collisi, Chairman, Grand Rapids.
A. R. McKinney, Saginaw.
L. O. Geib, Detroit.
H. F. Dibble, Detroit.
G. M. Curry, Flint.
Philip Riley, Jackson.
Grover C. Penberthy, Detroit.
E. P. Wilbur, Kalamazoo.
Don F. Kudner, Jackson.

On motion of Bruce-Boys, these appointments were endorsed.

(c) President Moll nominated and appointed the following committee on Woman's Auxiliary:

T. F. Heavenrich, Port Huron.
Frederick C. Warnshuis, Grand Rapids.
Louis J. Hirschman, Detroit.

On motion of Bruce-Le Fevre these appointments were endorsed.

(d) President Moll nominated and appointed the following to represent the State Medical Society on the Joint Committee on Public Health Education:

R. C. Stone, Battle Creek.
J. B. Jackson, Kalamazoo.
F. C. Warnshuis, Grand Rapids.
H. E. Randall, Flint.
Burton R. Corbus, Grand Rapids.

On motion of Bruce-Boys, the President's appointments were endorsed.

10. The Executive Committee adjourned at 11:30 P. M.

F. C. Warnshuis, *Secretary.*

YOUR MEDICAL FRIENDS
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will appreciate a set of
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111TH ANNUAL MEETING

Seven hundred and thirty-one members attended and registered at our 111th Annual Meeting held in Pontiac, September 22-23-24, 1931.

Congratulations and thanks are generously accorded to the Oakland County members for their pleasing hospitality and excellent supervision of every need. It was Oakland County's hundredth organizational anniversary. Their health week, and special exhibits conveyed an educational opportunity to the local community that should be far reaching. A splendid local spirit and enthusiasm prevailed. We are sure we all profited from the efforts expended.

The official minutes of the meeting are contained in this issue. Read them carefully. The Governor's address imparts several interesting observations and attitudes. Enactments of the House of Delegates affect every member and county unit and should be observed by every member.

The Section meetings were well attended. Unstinted praise is due to all section officers for the excellent scientific programs. Members were frequently heard to state: "That one paper was alone worth coming for." All the papers read will appear in succeeding issues of The Journal.

Cordial greetings were exchanged with the Indiana Association which was in session in Indianapolis.

The public meeting in the Tabernacle on Thursday evening was well attended. Dr. Maurice Fishbein gave one of his attention arresting, educational and constructive addresses on the "Frontiers of Medicine." For an hour he held his audience in intensive attention. We are grateful for Dr. Fishbein's presence and for his address that enhanced our program so materially.

This annual session exemplifies anew that our Society continues to maintain its purposes and annually contributes much for the good of the people and for the profession.

SCIENTIFIC EXHIBIT

The Scientific Exhibit of the Annual Meeting of the Michigan State Medical Society was fairly well attended in spite of the distracting influence of the American Legion Meeting in Detroit. It is to be regretted, however, that the Pontiac arrangement of scientific sessions held in various outlying churches made it inconvenient for many to see the exhibits. I feel that much instructive material has been wasted.

Dr. Vernon Hart of the Orthopedic Department of the University of Michigan Hospital presented a very complete series of hip joint lesions which

included every possible disease of the hip joint, including congenital lesions, constitutional, infections, traumatic lesions, tumors, endocrine disturbance and there was a series of normal anatomical charts for comparison. This display had material in it for many hours of study alone.

Dr. James E. Davis of the Department of Pathology of Detroit College of Medicine and Surgery received the first award for a series of beautiful gross specimens of cancer of the uterus and breast. These were preserved in their natural colors and mounted between glass in such a way that the cancer structure could be seen by both transmitted and reflected light.

Dr. Kahn of the Department of Laboratories, University of Michigan Hospital, showed an interesting study of the behavior of bacteriophage and antivirus, together with a history and a description of the phenomena.

Dr. G. B. Waldbott of Detroit showed an interesting series of charts illustrating the causes of asthma and hay fever and the mechanism of anaphylaxis in these diseases.

The Henry Ford Hospital, Detroit, Michigan, represented by Drs. F. W. Hartman, R. D. McClure, J. P. Pratt, H. P. Doub, J. G. Mateer, L. S. Falles, J. I. Baltz, Merrill Smeltzer, exhibited a series of studies in cancer with very beautiful photomicrographs and gross specimens. One of the most interesting portions of this exhibit was a group of cases of carcinoma of the ampulla of the duodenum, some of which were diagnosed clinically before operation. They showed that the characteristic findings in this condition are intermittent jaundice and hemorrhage with occult blood in stool, the reason for this being due to the breaking off of masses of fragile neoplasm, thus relieving obstruction at ampulla and producing a hemorrhage at the same time; these features, together with X-ray filling defect of duodenum being the characteristic findings in neoplasms of this particular area.

A new technic for freezing tissue was shown, making use of carbon dioxide dry ice instead of carbon dioxide gas. The advantages of this are of course obvious, eliminating gas tank and noise and making it possible to do frozen sections in the operating room at an extremely low cost and demonstrating the findings directly by camera lucida to the operating team.

Dr. O. A. Brines of Detroit made a demonstration of a modification of the Asheim-Zondek pregnancy test, using rabbits. This was illustrated by gross pathological findings and photomicrographs and accompanied by a moving picture demonstration of technic. This test is proving very valuable in the hands of many as a test for early pregnancy and with a very high degree of accuracy.

Drs. George Sewell and Joseph Casper of the Urological and Pathological service of Herman Kiefer Hospital of Detroit presented a series of studies of kidney tuberculosis, illustrated by X-ray pyelograms. In connection with this they showed a new modification of the Vernes' serum test for tuberculosis which, because of its fair degree of accuracy, may be of value as a diagnostic test for tuberculosis to be used in clinical, X-ray and bacteriological studies. They emphasize the importance of a newer culture method for the diagnosis of tuberculosis using culture medium instead of animal inoculation, making it possible to isolate tubercle bacilli in an average of twenty-six days against an average of sixty days by the guinea pig inoculation method.

Dr. Dutchess of Detroit, representing the Cancer Committee of the Michigan State Medical Society in collaboration with the American Medical Society for the control of cancer, presented a series of interesting studies of charts illustrating the incidence of cancer deaths and the location of equipment for diagnostic and treatment services in cancer.

Dr. Claire L. Straith of Detroit exhibited a large series of photographs of facial reconstruction and plastic surgery of face, together with models from several cases.

Dr. John Alexander of the Department of Surgery of the University of Michigan Hospital showed a large series of films representing the surgical treatment of pulmonary tuberculosis. This series was very complete, representing many types of surgery and plastic operations upon the chest.

Drs. Pemberthy and Whitaker of the Surgical Service of the Children's Hospital of Michigan presented an interesting series of X-ray films of pneumoradiography of the abdomen, of use in outlining various tumor masses in the abdominal cavity.

This material represents an immense amount of work and study, and it is to be hoped that the arrangements in next year's meeting will be such that members attending the scientific sections will be able to more conveniently see the exhibits.

Wm. M. German.

COUNTY SOCIETIES

GRATIOT-ISABELLA-CLARE COUNTY

The September meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Wright House, Alma, Thursday, September 17, 1931.

Dinner was served to seventeen members and three visitors. Five members and four visitors came in after dinner to hear Doctor Gordon.

President Harrigan called the meeting to order. The minutes of the previous meeting were read and approved. Motion was made and carried that the members bring their wives to the November meeting.

President Harrigan then introduced Dr. J. E. Gordon, whose subject was "Clinical Aspects of Poliomyelitis." Some of the points of his talk were as follows:

Poliomyelitis is always a generalized infection first, in which paralysis occurs in about 5 per cent. The paralysis may be flaccid or spastic. In New York there was one adult to every sixty-eight cases. In Iowa there was one adult to every six cases. In rural areas the adults were not exposed so frequently in childhood. Incubation period about eight days. Prominent symptoms are fever (not high), headache, nausea, dry throat, lymphatics enlarged, child is drowsy, but not unconscious, irritable, face flushed because of vasomotor instability, sweating; pulse always high in relation to temperature. Children are not likely to have convulsions. Later symptoms are rigidity of neck and spine and the paralysis.

By spinal puncture you find increased pressure and an increase of the cell count. This disease commonly occurs in one of three forms: spinal, bulbar and spino-bulbar—the latter being the most serious.

Treatment: Convalescent serum in the preparalytic stage both intraspinous and intravenous.

Prevent deformity by light splinting. Keep paralyzed parts at rest until all soreness is gone. Increase circulation by heat such as electric light.

Glucose may be used intravenously to reduce edema. In a five-year-old child 30 c.c. of a 10 per cent or 20 per cent solution may be given; in adults up to 100 c.c. Give 20 c.c. of adult whole blood in buttock as a prophylactic.

Many took advantage of the opportunity to ask Doctor Gordon questions.

On behalf of the Society President Harrigan thanked Doctor Gordon for his instructive talk.

Meeting adjourned.

E. M. Highfield, M.D., *Secretary.*

HILLSIDE COUNTY

The Hillsdale County Medical Society assembled in Special Session at the Country Club, Hillsdale, Thursday, September 17, 1931, at 6:30 P. M.

Dinner was served, after which the Society adjourned to the audience room.

Reading of minutes was omitted.

Dr. C. T. Bower at the request of the Vice President introduced the speaker of the evening, Prof. L. C. Hart of the Department of Orthopedics, of the Medical School, U. of M., who addressed the Society on "Infantile Paralysis" in a most timely and interesting manner.

He clearly outlined our present knowledge of this fearful disease, with prophylaxis and diagnosis as at present understood, following this with a comprehensive summary of the treatment of the several stages and forms as practised at the University Hospital.

Touching but lightly on the bulbar form in which death is practically sure to come, he gave most of his attention to the paralytic and pre-paralytic stages of the malady; emphasizing the great value of rest, especially physiological rest, by supporting the limb in a position giving no tention to the muscles involved.

Passing from this, he took up the stage of complete recovery in which deformities are most likely to occur.

Dr. Hart stressed the importance of massage and passive motion, especially as carried out under warm water.

Summing up, Dr. Hart called attention to the fact that while we have as yet no specific for this disease, yet cases well and promptly treated show vastly better results than those untreated or incorrectly treated.

At the close, Dr. Hart was cordially thanked by the Vice President on behalf of the Society, for his splendid address. He was asked and answered many questions during the round table discussion.

A number of gentlemen from the Societies of Branch and Lenawee Counties were present and took part in the discussion.

Adjourned to the next regular meeting.

D. W. Fenton, *Secretary.*

SHIAWASSEE COUNTY

Shiawassee County Society held its October meeting in Owosso at Memorial Hospital, at noon, October 8, and was addressed by Dr. C. D. Barrett, of the State Department of Health, on "Anterior Poliomyelitis." The meeting was well attended and Dr. Barrett's very interesting talk was given an attentive hearing.

Two applications for membership were received—Dr. C. J. Richards, of Vernon, and Dr. A. S. McGregor, of Perry.

W. E. Ward, *Secretary-Treasurer.*

WHY NOT ORDER
OUR MEDICAL HISTORY?

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. J. EARL McINTYRE, President, Lansing
MRS. W. L. FINTON, Secretary, Jackson

Pontiac, Michigan,
September 23, 1931

The fifth annual meeting of the Woman's Auxiliary to the Michigan State Medical Society was called to order by the president, Mrs. Lester J. Harris, at 2:30 P. M.

Preceding the annual business meeting members were entertained at luncheon at the beautiful Pine Lake Country Club.

The invocation by Reverend Burt was followed by a delicious luncheon, after which Mrs. F. A. Mercer, president of the Oakland County Auxiliary, extended to the visiting delegates, officers, and guests a very cordial greeting.

Mrs. Den Bleyker of Kalamazoo responded.

We were entertained with a violin solo by Mrs. Palmer Sutton.

The meeting was then turned over to Mrs. Harris, who called on Mrs. Chynoweth of Battle Creek to introduce the speaker of the afternoon, Dr. Helen Mitchell, who spoke on the Labrador and Newfoundland fisher folks and their nutrition problems. She also showed some of their handwork.

A vocal solo was given by Mrs. Zinn of Pontiac, and the annual meeting was formally opened.

The Credential Committee was called on but did not report. The minutes of the last annual meeting were read and accepted.

The State Secretary and Corresponding Secretary read reports, which were accepted and placed on file.

The Treasurer's report was read and accepted.

The Secretary read reports of four state board meetings, which were accepted.

Letters from the Hygeia chairman and Publicity chairman were read.

The report of the National Convention at Philadelphia was read by Mrs. L. O. Geib of Detroit.

County reports were read by delegates, and many new phases of Auxiliary work presented.

The report of the Organizing chairman was read.

Miscellaneous business was called for.

The election of officers for 1931-1932 followed.

Mrs. T. Hackett of Jackson, Mrs. E. S. Peterson of Jackson, and Mrs. B. N. Mitchell of Pontiac were appointed tellers.

The nominating committee composed of Mrs. P. T. Doyle, chairman, of Lansing, Mrs. F. A. Mercer and Mrs. Connely of Detroit, read the name of Mrs. J. Earle McIntyre of Lansing for President and Mrs. F. A. Mercer of Pontiac for Vice President.

The President, Mrs. Harris, called for nominations from the floor.

Mrs. L. O. Geib of Detroit was nominated for Vice President by Mrs. Brunk.

The nominations were closed. Ballots were passed, the final count showing that Mrs. McIntyre was elected President and Mrs. F. A. Mercer was elected Vice President.

A vote of thanks was given Mrs. Harris for the splendid work she had done while holding the presidency for the past two years.

The meeting was adjourned.

Ella H. Finton, *Secretary.*

THE DOCTOR'S LIBRARY

SIMPLE LESSONS IN HUMAN ANATOMY. B. C. H. Harvey, M.D., Professor of Anatomy, University of Chicago, Published by the American Medical Association.

The material contained in this book was developed by Professor Harvey in response to a request that he prepare a series of articles for *Hygeia,* The Health Magazine, published by the American Medical Association. The object was to make the truths of anatomy generally available and intelligible. It was thought that people interested in health might appreciate some knowledge of the structure of the body and of the way in which it works, and thereby be better able to comprehend methods of prevention of disease and of its treatment. That Dr. Harvey succeeded in his task was early evident from the great interest shown in the articles as they appeared in the magazine and from the fact that many requests for them in book form were received long before the series was completed in the publication.

In preparing the material for publication in book form it has been elaborated by the addition of new illustrations, by the adding of a considerable amount of new material, by some rewriting, and by the insertion of various headings tending to simplify the study of the text. Professor Harvey has given to the book the meticulous attention that is an intimate part of the study of anatomy. Anatomy is usually studied by dissection of the bodies of the dead. It is an erudite branch of scientific learning but has had little attractiveness for the average man who has not realized its application to everyday life. Dr. Harvey has made the subject live. Throughout this book he discusses anatomy in relationship to functions that constantly go on in the living body.

In these days when the individual is concerned as to his well-being, the requests are frequent for an understandable text on anatomy. This book well answers these requests. It will go far in aiding scientific medicine.

FRACTURE OF THE JAWS. Robert H. Ivy, M.D., D.D.S., F.A.C.S., Professor of Maxillo-facial Surgery, Graduate School of Medicine, and of Clinical Maxillo-facial Surgery, School of Dentistry, University of Pennsylvania, and Lawrence Curtis, A.B., M.D., D.D.S., Assistant Professor of Maxillo-facial Surgery, Graduate School of Medicine and Dentistry, University of Pennsylvania. 177 Engravings. Price, $4.50. Lea and Febiger, Philadelphia, Pa., 1931.
delphia, Pa., 1931.

In this book the authors present the results of several years experience in the treatment of fractured jaws. The etiology, symptoms, diagnosis and treatment of fractures of both the mandible and maxilla are discussed in detail. A chapter is devoted to complications arising from fractures of the mandible. This book should appeal to the general surgeon as well as to the dentist or oral surgical specialist, inasmuch as the methods of treatment here presented are readily available to him. A chapter on Roentgenographic Technic by LeRoy M. Ennis, D.D.S., and another on Dietary Management in Fractures of the Jaws by Clyde W. Scogin, D.D.S., are included, making the work complete in presentation. The numerous illustrations aid the text in discussing this subject.

OF GENERAL MEDICAL AND SURGICAL INTEREST

THE EVOLUTION OF SPECIALISM IN MEDICINE AND SURGERY

This is the age of specialism in all vocations, writes Dr. Walter J. Crec in an address before the Pan-American Medical Association at Mexico City. It is not new in medicine and surgery. Herodotus credits the idea of medical specialists to the Egyptians, of whom he writes: "Each physician applies himself to one disease only. All places abound in physicians; some for the eyes, others for the head, others for the teeth." There has been rapid progress during the past fifty years in the advancement in medical specialism. Formerly there were only a few of what might be called "Full-time" specialists. After a time spent in general practice, chance or inclination induced the general practitioner to take special studies in his chosen line and, after a time spent in hospitals or with a specialist, he was ready to begin his special work. Some of the best specialists in the past have risen from the ranks of the general practitioner. Medicine in all its branches has become so great in scope that it is impossible for one mind to grasp all. In some of our universities it is required that after the second year the student declare just what line of endeavor he likes, so that the following years he may devote his time more along the special work he has in mind. Might it not be a good idea to pass over lightly some of the subjects having no particular use in some particular specialty? The old family doctor, as we knew him, is disappearing and the specialist is taking his place to a great extent. The public demand specialists and ought to have them but some doctors dishonestly place themselves before the public when they are not in any way qualified by years of practice in general or special time spent in study. This is not fair to the public or profession. State laws should be such that anyone announcing himself a specialist should pass an examination and present credentials of study.

BLEEDING OF BENIGN ORIGIN

Leo Kessel, New York, states that patients who present the ominous symptom of hemorrhage may occasionally suffer from a benign lesion, and the disease may run a propitious course. The diagnosis of benign bleeding, however, must never be hazarded until all available examinations have excluded the presence of a blood dyscrasia, malignant neoplasm or chronic inflammatory process, such as tuberculosis. It is unwise, furthermore, to advance this diagnosis unless the benign lesion can be visualized by some direct method of examination, such as bronchoscopy or proctoscopy. Indeed, even in cases in which a malignant process has been excluded and a benign process demonstrated, the cautious diagnostician will proceed with the knowledge that the patient with a benign cause for bleeding may harbor a malignant disease as well. Although conscious of all these evil forebodings, the author presents a group of patients to illustrate the fact that extensive bleeding may result from a benign lesion and either completely cease or be prevented by local forms of treatment.—*Journal A. M. A.*

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CONTENTS

Address at the 82nd Annual Opening Exercises of the Medical School, University of Michigan. Charles Godwin Jennings, M.D., M.A.C.P. ... 919
Postmortem Cesarean Section. Alexander M. Campbell, M.D., F.A.C.S., and J. Duane Miller, M.D. ... 923
Secondary Anemia: A Preliminary Report on Stomach. E. A. Sharp, M.D. ... 927
Non-specific Protein Therapy in Gynecology. H. Wellington Yates, M.D., and David Davidow, M.D. ... 931
Surgical Treatment of Spinal Block. Edgar E. Martmer, M.D., and E. C. Davidson, M.D. ... 936
Practical Problems in Poliomyelitis. J. E. Gordon, Ph.D., M.D. ... 937
Treatment of Infantile Paralysis Resulting from Poliomyelitis. F. C. Kidner, M.D. ... 944
Results Obtained in the Use of Toxoid as an Immunizing Agent Against Diphtheria. Don J. Barnes, M.D. ... 949
Famous Men in Medical History: William Pepper. William A. Sodeman ... 950
Michigan's Department of Health ... 956
Editorial:
Dr. Charles Godwin Jennings Honored ... 959
Dr. J. D. Bruce, Vice President of the University of Michigan ... 960
The Uses of Adversity ... 961
Faraday ... 961
Progress ... 962
Reminiscence ... 964
Medical Economics: Medical Care for Veterans in Local Hospitals. Angus McLean, M.D. ... 965
Dr. Aristides Agramonte As I Knew Him. Walter J. Cree, M.D. ... 966
Deaths ... 967
General News and Announcements ... 968
Society Activity ... 969
County Societies ... 978
The Doctor's Library ... 979
Index ... 981

ADDRESS AT THE 82ND ANNUAL OPENING EXERCISES OF THE MEDICAL SCHOOL, UNIVERSITY OF MICHIGAN*

CHARLES GODWIN JENNINGS, M.D., M.A.C.P.
DETROIT, MICHIGAN

Although Michigan is not my native State, or its University my Alma Mater, my interest in its medical school has been sincere and of long standing. Since the struggling days of Ford, Palmer, McLean, Frothingham, to this time of its educational and scientific eminence—the period of the achievements of Vaughan, Warthin and the present members of the faculty—I have been on friendly and intimate terms with its teachers. We have lived in neighborly rivalry for the advancement of medical education, with the University always a little in the lead.

Thirty-five years of medical teaching gave me a sympathetic knowledge of the aspirations and accomplishments of the student of medicine. He was an inspiration to me in those years and my interest in his future has never waned. I am, therefore, very grateful for this opportunity again to speak to a body of students about to take up and carry on the science, the art and the culture of medicine where it must be dropped by the men of my generation.

It is not given to many medical men to live an intensely active professional life of over half a century and it is still rarer for that half century to cover the period in which, as Osler has said, "more had been done to determine the true nature of disease

*This address was on the occasion of the conferring of the Honorary degree of Master of Arts on the Speaker. See editorial, page 959.

than in all the time that had passed since Hippocrates."

With such a background, I may be pardoned if I bring back a little of the past in order that I may compare the medical problems of my early professional years with those which face the young physician of today.

My medical studies began in 1875. At that time centuries of observation and experience by the masters of our art had built up a science of the clinical history of disease. The knowledge of the nature of disease was a superstructure built largely upon the faulty foundation of speculation.

From Harvey's discovery 250 years before, medicine had made but halting advances. Late in the 18th Century Auenbrugger and Laennec founded the art of physical diagnosis, and Jenner discovered vaccination, the guidepost that pointed to the modern science of immunology. Then a fallow half century passed until Morton in 1846 made the great gift of anesthesia to humanity. An unimportant generation followed, and then came Pasteur. "Before him Egyptian darkness; with his advent a light that brightens more and more as the years give us ever fuller knowledge" (Osler).

This was the dawn of modern medicine, and my college years saw its first streakings in the application of the researches of this great man into the cause of the fermentations, to the solution of the mystery of the ages, the etiology of the infections. Lister's brilliant young mind quickly grasped the relation of the principles of Pasteur's experiments to wound infection, and he gave antiseptic surgery to the world. It was my good fortune to witness the first demonstration in Michigan of the crude technic of those early efforts. Koch then amplified the discoveries and deductions of Pasteur and Lister. In 1878 he demonstrated the microbic origin of wound infection and evolved the epoch-making technic of bacterial culture and stain. Thus was born the science of bacteriology, and modern medicine begin its spectacular career.

Can my student friends picture the medical knowledge of this time? Bacteriology, which has demonstrated the etiology of over 80 per cent of human ills, and has given us specific control over many of them, was a conception without a name. Lister had made asepsis a hope, but every surgical operation still was a septic hazard. Materia medica harbored the crudities of the past centuries, and therapeutics was an empirical puzzle. The roentgen ray and radium were undreamed of. The function of the endocrine glands was a mystery. The clinical thermometer and the hypodermic syringe were innovations. The sphygmograph and the electrocardiograph were unknown. The clinical laboratory did not exist and the microscope was a rare, glass-covered mantel ornament.

It is not difficult to see the problems which faced the young practitioner of that time, confronted as he was, by the oncoming revolution in medical science. The whole structure of medicine was in a state of flux, changing from year to year as experiment and research demonstrated with bewildering rapidity the scientific marvels that are the commonplaces of today.

His major problems were scientific. Research, experiment, discovery, technical perfection in the laboratory; revolutionary adjustments to meet this flood of discovery in the practical field of clinical medicine and surgery. The preclinical teaching of his college years rapidly became obsolete and postgraduate studies of the scientific foundation of his art were imperative.

The medical profession then had no serious economic problem. The physician's place in the social structure was fixed and long established custom cheerfully gave to him an adequate reward for his service.

We may ask what manner of man was this who faced such problems? He was the general practitioner of medicine, the heir to the knowledge, the traditions and the culture of the illustrious physicians of the centuries. The most beloved writer of this period, Robert Louis Stevenson, whose invalid life brought him into intimate contact with many physicians of many countries, wrote thus of his virtues:

"There are men and classes of men that stand above the common herd: the soldier, the sailor not infrequently, the artist rarely, rarelier still the clergyman, the physician almost as a rule.

"He is the flower of our civilization, and when that stage of man is done with, only to be marvelled at in history, he will be thought to have shared but little in the defects of the period, and to have most notably exhibited the virtues of the race.

"Generosity he has, such as is possible only to those who practice an art; discretion tested by a hundred secrets; tact tried in a thousand embarrass-

ments, and, what are more important, Herculean cheerfulness and courage.

"So it is that he brings air and cheer into the sick room and often enough, though not so often as he desires, brings healing."

How grateful we should be for such an appreciation! But I often wonder, are we medical men of today, tainted, perhaps, as we may be by the commercial spirit of the age, wholly worthy of this remarkable tribute?

Such, in briefest outline, was the medicine of fifty years ago; such was its exponent; such were his problems.

It is unnecessary before this audience to attempt to outline the advance of modern medicine. No informed person will say that medicine has lagged in this half century of scientific achievement. It has eagerly grasped and quickly applied to its humane endeavor the discoveries of biology, chemistry and physics. No field of human activity has made greater contributions to civilization.

So often we hear it flippantly said "Doctors don't know very much." Whatever may be the limitation of the individual medical mind, the sum of medical knowledge is stupendous. No single intellect can comprehend it. It is true many gaps are as yet unfilled. Experiment, the guiding genius of modern science, sooner or later will reveal many more of the secrets of pathology. Some may remain forever hidden. Perhaps some unthought of revelation, as in atomic physics, may simplify the intricate problems of cellular physiology and throw a flood of light upon its many mysterious disorders.

With this vast fund of knowledge accessible to the medical graduate of today, what will be his problems? Looking broadly at the relation of medicine to society, the major problems now confronting the medical profession are economic. The scientific problem is in the background. Great medical schools, foundations, hospitals and clinics are organized and financed to carry on with research and discovery. The great question now pressing for solution is, how may the accumulated scientific knowledge of modern medicine be made available for the prevention and cure of the ills of the mass of our people. In our eager efforts for the advancement of medical science we have neglected to build up an efficient organization for its practical application.

No one familiar with current literature can fail to see that the medical profession is under fire. In recent years a flood of criticism of medical service has poured out from books, from magazines, from the newspaper press. Some of this criticism is uninformed and unjust, but the candid physician must acknowledge that our critics have laid bare some of our grave sins of omission.

The two principal causes of complaint are, (1) the mounting cost of medical care, and (2), increasing and unregulated specialism. Granting for the moment the soundness of these strictures, where is the fault? It lies partly with the medical profession, partly with the community and partly with circumstances and conditions over which neither the physician nor the patient has control.

In this short address consideration of these questions must be fragmentary and general.

The increased cost of medical care is the direct result of the advancement of medical science. Time-consuming clinical investigation with costly diagnostic and therapeutic procedures has become essential to the modern practice of medicine and surgery. The patient very properly demands this service. To the wealthy or to the charity patient the cost matters little. To 80 per cent of our people, those of moderate means who do not ask for charity, it is a serious, personal, economic problem. Industrially expressed, the cost of production of modern medical service, a necessity of life, is more than the average consumer can pay.

Critics from various fields of industry and finance have roundly berated medical men for their failure to adjust their science to economic necessity. The recent collapse in the whole industrial and financial world has shown that it, too, has been unable to adjust its economics to its scientific advancement. The sting is taken out of this criticism of medicine.

For several years medical organizations, hospitals, and lay groups have been studying medical economics. The privately financed "Committee on the Cost of Medical Care" is completing the fourth, of a five year study. Interesting facts have come to light. It is shown that of the three items of the cost of medical care—hospital, nurse, physician—the physician costs the least.

The Baker Memorial, the middle rate unit of the Massachusetts General Hospital, was established for the care of patients of moderate means. It admits no charity cases or patients able to pay the rates of Phillips House, the private room unit. Of the total income of the first year of operation, in round figures, 62 per cent was paid for operation and maintenance, including the regular nursing staff, 10 per cent to special nurses, and 28 per cent to physicians and surgeons. There was a deficit on operation of 17 per cent of the total cost.

A manufacturing company in central New York, with plants in five neighboring cities, maintains a medical organization which gives complete medical service to its 15,000 workers and their families, a total of over 40,000 persons. In a recent year this service cost the company over $900,000.00. Of this sum, $360,000.00 was paid to hospitals, $305,000.00 to nurses, and $300,000.00 to the medical staff, including the fees of outside specialists.

These two examples, which well represent the cost of good medical care to persons of moderate means, show that physicians' fees make up less than one-third of the total. The doctors alone are not responsible for the increased cost of medical care.

Can this cost be reduced? By organization, concentration of equipment and grouping of professional effort, economies in operation may be made. Medical care, however, is a personal service. Luxuries may be eliminated, but necessities will still pile up a deficit between cost of production and ability to pay.

At the moment three agencies to meet this condition suggest themselves—philanthropy, health insurance, State aid. To a degree, these agencies are now in operation. Philanthropy is doing its noble work well. Health insurance is immature and must wait for greater actuarial experience. State aid, in the field of public preventive medicine, is functioning acceptably.

By well considered delimitation of the field of each of these agencies and by proper correlation of their activities, the problem of deficit may be met. Philanthropy would build the hospitals and endow their beds. Health insurance would permit the patient to contribute his quota and to maintain his independence. The State could amplify its present activities and take over the operation of medical centers, and the necessary clinical and X-ray laboratories.

A mystic streak still contaminates the human mind, cultivated or crude, and medicine seems to be a prolific field for its expression. The invalid seeks the miracle man and the miracle man of medicine at the present time is the specialist. In modern medicine specialism is a necessity. The public, however, has distorted its function and made it an expensive luxury. In large communities, at least, the doctor who is not a specialist in something or other is simply out of luck. Specialism, very properly, has come to stay, and our duty is so to regulate it that it will not be a burden to the sick and an embarrassment to medical practice.

In modern medicine the general practitioner of the old type is inadequate. Except in isolated communities he should not exist. His place should be taken by another, as yet unrecognized, specialist—the master of them all—the family practitioner, whose field of activity should be as well defined and as restricted as that of other specialists. He should be as thoroughly trained for his work as the surgeon, the ophthalmologist or the neurologist. The present scheme of medical education makes no provision for such a training. The undergraduate curriculum has no such course of instruction; the hospital internship is not an adequate postgraduate experience.

The encroachment upon the legitimate field of service of the family practitioner by specialists, clinics, industrial medicine, public health activities and many other agencies has left it barren and unattractive. The fault is partly with the family physician himself. His regeneration will come only when he ceases to boast of a universal knowledge of medicine and surgery, and demonstrates to the public that he has a special service to give that is unattainable elsewhere.

He should train himself to be the confidential family medical adviser. He should be a master of the art of the diagnosis and treatment of disease in its incipiency; a capable teacher and practitioner of personal and household preventive medicine; an expert in the conduct of periodical physical examinations. He should have hospital and laboratory facilities at his command and be in close touch with the consultants necessary to extend his restricted and special field of

practice. A physician with these qualifications will find an eager demand for his talents.

As the late Sir James Mackenzie so well pointed out, medical thought has been centered upon the investigation of fully established or advanced disease. The study of disease in its earliest beginnings has been overlooked. Our teachers are men who have been trained, and have obtained their experience, in the clinic, the hospital ward, and the autopsy room. With rare exceptions, they see disease only in its advanced and terminal stages, when function has been gravely perverted or destroyed, and anatomical structure seriously or irreparably damaged. The early and apparently insignificant subjective symptoms that point feebly, but certainly, to oncoming disease do not come under their observation. They cannot acquire the knowledge of these early symptoms so essential to the recognition of disease in its earliest and most curable stage. They cannot adequately teach it.

Here is a field of research and discovery that is broad and practically untouched. Here is the opportunity of the family practitioner.

In this brief address we have lightly touched upon some of the economic problems of medicine which are pressing for solution. They are technical problems and belong primarily to the medical profession. In the settlement of them, however, philanthropy, the State and the general public must lend their aid, but, in the highest interest of all, they must not control. Well meaning but uninformed philanthropists, ambitious politicians, and wild eyed reformers should have no part in their solution. The scientific method of research and experiment must be applied to them. A revolutionary upheaval, such as the control of medical service by the State, would be a calamity.

My young friends, these are some of the problems you will face when you exchange your college years for lives of professional activity. The future of the medical profession will then be in your hands. You should give serious thought to these economic questions and be prepared to assist in solving them; and, in their solution, to uphold the dignity and well-being of scientific medicine.

POSTMORTEM CESAREAN SECTION

REPORT OF CASE WITH LIVING CHILD

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Postmortem cesarean section is probably the oldest known obstetrical operation and, although it has been the topic of discussion at intervals for centuries, still, its status has not been firmly settled.

Saving the life of the infant after the death of the mother was an early thought in the minds of men, as shown in the account of the birth of the mythical Bacchus. Æsculapius, the physician, was also said to have been delivered by his father, Apollo, in this way and there are a number of famous characters in history whose lives were saved in a similar manner.

The operation has fallen into disrepute at times on account of the small percentage of living children obtained. However, in recent years reported results have been more encouraging and there is every reason to hope for continued improvement.

The opportunity to perform postmortem cesarean section and to obtain a living child is vouchsafed to but few obstetricians and the dramatic circumstances associated with the incident led us to deliberate upon the responsibility, both legal and moral, which challenges the physician when he is confronted with the possibility of saving a child after the death of its mother.

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The subject was brought freshly to our mind by the following case.

Mrs. M. E. R., aged thirty-nine, white, gravida 6, was admitted to St. Mary's Hospital at six p. m., January 31, 1931. She complained of swelling of the extremities, blurring of vision and extreme exhaustion. Her previous pregnancies were normal. Her last menstrual period was April 24, 1930, making her estimated date of confinement February 1, 1931.

The patient was well until six weeks before admission. An edema of the legs was first noticed. The edema continued and for the two weeks previous to her entering the hospital she had experienced blurring of vision.

An examination showed the presence of a generalized edema, with a blood pressure of 158/90. The uterus was the size of a full term pregnancy with cephalic presentation. The fetal heart was distinct. The urine contained albumin 4 plus and the patient presented the appearance of an extremely sick woman.

The patient was given morphine gr. 1/6 hypodermatically and 20 c.c. of a 10 per cent solution of magnesium sulphate intravenously.

Dr. A. B. Thompson, Jr., was asked to see the case in consultation, at which time he found the blood pressure to be 158/118. At that time the fetal heart had become faint and no fetal movements could be detected.

At 8:05 p. m., two hours after her entrance, there was air hunger and cyanosis and in fifteen minutes the patient was dead.

The mother had been dead at least ten minutes by actual timing when one of us reached her bedside.

Without delay and on the bed on which the patient had died the abdomen was opened by a small bladed knife and a pair of scissors. The uterus was incised and a female infant, weighing six pounds and eleven ounces, was extracted in about thirty seconds.

The child was markedly cyanosed but the heart action was good and after about an hour of continuous resuscitation the child's color improved. Recurring attacks of cyanosis occurred during the first twenty-four hours and were controlled by placing the child in an oxygen tent.

At the present time the baby is living and in excellent health.

Postmortem examination of the mother showed fatty degeneration and focal necrosis of the liver about the central veins, parenchymatous nephritis, bilateral hydrothorax, edema of the lungs, fatty degeneration of the heart, and atrophy of the spleen.

A critical examination of this case and of the situation in general naturally brings forth a number of points for consideration.

First, during what period of gestation can we hope to obtain a living child after its mother's death? The answer to this is the same as for the viability of any infant born at the same period of gestation, and it has been set by various authorities at from twenty-four to thirty weeks. In this respect it is interesting to note the sensible and practical attitude of the church, which fixes a limit of twenty-four weeks, if in the hospital, and of twenty-eight weeks if in the home, the difference being allowed for the better care that can be given the infant in a hospital.

Second, how long after death of the mother can the fetus survive in utero and how is it possible for it to survive? Among the cases reported in literature some state that living children have been obtained as long as from one to two hours after the death of the mother.

The Austrian law requires that any physician seeing a woman with pregnancy advanced six months or more within one hour after her death shall immediately perform a postmortem cesarean section. Linzenmeir concluded that twenty minutes was the greatest length of time after death that a living child could be obtained, and Bacon said that there was no authentic case on record in which the child lived more than twenty-three minutes after the maternal death.

In reviewing the literature one cannot fail to note that the percentage of living children depended quite as much on the promptness with which the child is delivered, after the death of the mother, as on any other single factor, and that most of the living children were obtained in those cases in which the delivery was effected within the first seven to ten minutes.

How does the fetus manage to exist for twenty minutes, or more, after the maternal death?

The capacity of the human fetus to withstand changes in asphyxia is fairly well known. Potter, in advocating delivery by version, has shown quite conclusively that haste is not necessary on account of the infant.

But in a case of asphyxia of the mother does the fetus also die from asphyxia? Living children have frequently been obtained by postmortem cesarean section after considerable periods of asphyxia of the mother, preceding death. Kustner, after obtaining living children by postmortem cesarean section, from two mothers who died following prolonged sufferings with signs of asphyxia, concluded that the demand for acids by the fetus from the blood of the mother is an active function of the placenta and that the fetus is able to live for some time in spite of the concentration in the maternal blood.

However, the prognosis for the life of the fetus is said to be better if the mother dies suddenly from some cause obviating asphyxia. Harrar concluded that the fetal prognosis is better in sudden, rapid, and violent death, in diseases of the central nervous system, heart and kidneys, than after long continued or infectious diseases, diseases of the blood or intoxications in which the blood is altered. And while it is well to remember that the cause of the maternal death does bear considerable weight in the prognosis for fetal life, the prompt and efficient action of the physician in delivering the child is equally important. Inasmuch as most of the infants are in a condition of asphyxia prolonged and energetic methods of resuscitation are necessary.

Realizing that time is an important factor we do not believe that the physician is justifield in searching long for signs of fetal life. If the fetal heart has been heard or fetal movements felt just before or just after death of the mother, it is reasonable to assume that the fetus is living and the physician should act at once. But if neither the fetal heart can be heard nor the fetal movements detected, it should not be assumed that the fetus is dead, for it is within the realm of every obstetrician's experience to deliver a living child when it was impossible to hear the heart beat or perceive fetal movements. It would scarcely seem logical to waste precious moments searching for positive signs of life when perhaps that life depends on promptness of action.

One should proceed to immediate delivery. Experience has shown that postmortem delivery from below (except when the cervix is fully dilated and the head lies low in the pelvis) has usually resulted in the death of the child.

In contrast to cesarean section in moribunda, no special skill is required when the mother is dead. With any sharp instrument at hand the abdominal wall should be opened at one stroke, the fundus incised, and the child extracted. It is well to remove the placenta so that it will not be forced into the vagina by postmortem uterine contraction.

Resuscitation of the child should be continuous and prolonged as long as there is any heart beat and may be discontinued only after every means has been exhausted.

An important consideration in postmortem cesarean section is the legal aspect as it concerns the physician. Law governing this situation apparently had its origin in the Lex Regia of Numa Pompilius, second king of Rome, and the effect of this is still seen in the attitude of the modern European governments. Our countrymen, however, have apparently not seen fit to deal with this situation either in statute or in decision. Duer, more than fifty years ago, said: "The problems involved in the death of a pregnant woman whose child is viable have commanded to a greater or less extent the attention alike of the medical profession, the state, and the church, for many centuries; the literature of the subject dates back to at least 800 B. C. It is indeed curious to note how much discussion its various relations have excited, and in view of this fact it is certainly remarkable that no definite conclusions, binding as to authority, seem to have been reached; no recognition of responsibility as attaching to him who permits a child to die in its dead mother's womb without an effort to save it."

It appears that up to the present time no change seems to have taken place in the legal aspect of this operation. However, we were very much interested to obtain the following opinion from an attorney for one of the large American insurance companies, which was as follows:

"We find no exact case touching on any of these propositions. From established legal principles, however, we believe we can arrive at a logical conclusion herein. We think, however, the questions are still open and therefore academic, and we must, therefore, reason from given legal premises to arrive at our opinion as to what the law is under these circumstances.

"In answer to your first question as to whether it is the duty of the physician to perform said cesarean section whether permission of the relatives is granted or not, in our opinion it is. It is, of course, fundamental that consent must be secured from any patient before an operation, and, in a case of a postmortem, from the nearest relative. That is, on the death of a husband the consent of the wife must be secured before a postmortem, and in the case of the death of the wife consent must be secured from the husband.

"The law, however, recognizes circumstances which prevent the securing of con-

sent. In other words, if an accident has occurred, the nearest relative cannot be secured shortly, and the patient's condition is aggravated by a delay, the Court construes that this is an emergency and under this circumstance holds that the surgeon may lawfully, and it is his duty to, perform the operation as good surgery demands in cases of emergency, without consent of the patient or next of kin. This case was presented squarely to the Supreme Court of Michigan in the case of Delahunt V. Finton in 1928, and the Court wrote a very good opinion which is reported in 221 NW 168, holding that the physician in performing such operation as good surgery demands in cases of emergency, without consent of the patient, is not liable.

"In answer to the second question, as to whether a physician is liable in a suit for damages if the section is performed against the wishes of the family, it is our opinion that the physician is not liable if he employed ordinary care and skill in the performance of the section and if he used his best judgment that the life of the child could be saved in this manner. We think this, too, is an emergency and the Court has said that not only may the surgeon lawfully perform the operation but *it is his duty,* under the circumstances. In an emergency, where one acts according to his best judgment, he is not chargeable with negligence.

"On page 1400 of the Principles and Practices of Obstetrics, by DeLee, we call your attention to the following statement:

> "Even before Numa Pompilius, attempts to save the child by cesarean section after the death of its mother were made, but the results were so poor that most men discontinued the procedure. In recent times the operation has often been done and results are more encouraging. If the pregnancy has advanced beyond the twenty-sixth week no delay is to be allowed after life is positively extinct, but the belly opened at once. It is not even necessary legally to obtain the consent of the husband or the family, though, for his own protection, the accoucheur should get it, if possible.

"Therefore, from the medical standpoint, it is good practice to perform a postmortem cesarean section. This being true, a civil action for damages might follow for the negligence or malpractice of the surgeon or obstetrician in failing to follow the usual and customary practice. We think there is no doubt but what a civil action for damages under these circumstances would succeed.

"As to the criminal phase of the question, we must approach that from a review of legal principles.

"In the case of People *vs.* Stahl (Mich.), 208 N. W. 685, the Court quotes Section 15,224 of the compiled laws of 1915 of Michigan, which reads as follows:

> "Every person who shall administer to any pregnant woman with a quick child any medicine, drug, or substance whatever or shall use or employ any instrument or other means, with intent thereby to destroy such child, unless the same shall have been necessary to preserve the life of such mother, or shall have been advised by two physicians to be necessary for such purpose, shall, *in case the death of such child* or of such mother be thereby produced, be deemed guilty of manslaughter.

"This shows, therefore, the courts of Michigan construe and hold that an unborn child is a legal entity and for an offense against the unborn the wrongdoer will be punished. This holds, therefore, that an unborn child is in effect a living person.

"Manslaughter has been defined as an 'unlawful killing of another where it results from the negligent doing or omission of an act which, though not of itself wrongful, was attended by circumstances which endangered life.'

"In this connection I wish to call your attention to the common law which provides that if the parents fail to provide an infant with necessary food or clothing, thereby injuring the health of the child, the parents are liable. The various states have all passed statutes which punish a wilful neglect or refusal on the part of the parents to support the minor child. Under these statutes a parent has been held guilty of manslaughter for failing to provide medical attendance.

"It would, therefore, logically follow that a physician who failed to perform a postmortem cesarean section, if the fetus is viable, would be guilty of gross negligence, and, therefore, manslaughter. We have seen that good practice requires the postmortem cesarean section and the negligent omission, if it results in death, would undoubtedly support a conviction of manslaughter.

"In this connection we must also bear in mind that a physician is not held responsible for an honest mistake or error in judgment. If, however, ordinary skill and care under a given circumstance would indicate that a postmortem cesarean section was proper

under all circumstances, and we can think of no case in which it would not be, it is our opinion that the physician could be convicted of manslaughter for not performing the operation if the fetus is viable."

CONCLUSIONS

First, a case of postmortem cesarean section performed ten minutes after the death of the mother and with delivery of a living child has been reported.

Second, the possibility of obtaining a living child by postmortem cesarean section depends on the cause of maternal death and on the period of gestation and largely on the promptness with which delivery is effected after the death of the mother.

Third, it has been shown that it is the duty of any physician who is present at the death of a woman who has advanced beyond the twenty-fourth week of pregnancy, to immediately deliver the child by postmortem cesarean section, if in his opinion the fetus is living. In so doing it is advisable, but not necessary, to obtain the permission of the nearest kin.

Fourth, we believe that physicians should realize their obligation, and opportunity, when the question of performing postmortem cesarean section presents itself, and that by acting with celerity they will be able to save a number of infant lives.

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SECONDARY ANEMIA: A PRELIMINARY REPORT ON STOMACH*†

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The substances of greatest interest at the present time in the treatment of secondary anemia are: liver, iron, copper, and vitamins. The multiplicity of remedial agents and their various combinations lend support to the assertion that there is no generally approved method of treating the simple anemias.

The existence of an antipernicious anemia factor in hog stomach has been confirmed by numerous observers, but only meager data have been available, however, regarding its value in the treatment of secondary anemia.

Rosenow[1] treated several cases of simple anemia with a stomach preparation without benefit.

Isaacs[2] reported that he had not seen any improvement in secondary anemia treated with desiccated stomach tissue.

The experience of these observers on the hemopoietic activity of stomach in the treatment of simple anemia does not coincide with my findings during the past year based on a study of over one hundred patients. The salient features of this investigation constitute the basis of this report.

METHOD OF STUDY

Insofar as possible all patients accepted for treatment were held for a period of observation, during which time frequent red blood cell counts, hemoglobin estimations and reticulocyte counts were made. The majority of all patients studied were out-patients, hence it was impractical to make blood studies daily, although this was done in many instances.

The cases were divided into two groups. The data concerning the first group (controls) observed are presented in Table 1, There was so little difference in behavior as the number of patients was extended, that statistics of the 21 cases cited may be said to represent a true picture of the course of events in the untreated secondary anemia.

*Part of a joint presentation with Dr. R. M. McKean entitled Treatment of the Anemias, given at the Highland Park Physicians Club, May 7, 1931.

†Ventriculin and Iron furnished by Parke, Davis & Co.

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TABLE 1. THE BEHAVIOR OF RED BLOOD CELLS, HEMOGLOBIN AND RETICULOCYTES IN 21 UNTREATED PATIENTS HAVING SECONDARY ANEMIA ASSOCIATED WITH VARIOUS CLINICAL ENTITIES

Patient's Key No.	Diagnosis	Red Blood Cells (million) Admission	Red Blood Cells (million) Discharge	Hemoglobin Per cent Admission	Hemoglobin Per cent Discharge	Reticulocyte Response	Days of Observation	Change R. B. C.	Change Hemoglobin Per cent
1 Ev.	Hemorrhage	1.30	2.17	19	30	5.4	55	+0.87	+11
2 Ta.	Hemorrhage	1.44	3.78	15	39	occ.	25	+2.34	+24
3 Ja.	Hemorrhage	1.58	2.39	26	28	0.8	32	+0.81	+ 2
4 Cu.	Diet Def.	1.80	3.00	40	49	0.8	27	+1.20	+ 9
5 Ho.	Hemorrhage	2.75	3.86	38	53	12.5	24	+1.61	+15
6 Po.	Tuberculosis	2.79	2.88	37	30		61	+0.09	— 7
7 Re.	Diet Def.	2.80	2.80	42	34	0.6	22	0.0	— 8
8 Sw.	Hemorrhage	2.80	2.57	54	52	0.5	7	—0.23	— 2
9 Ha.	Diet Def.	2.88	3.00	50	24	0.4	56	+0.12	—26
10 Tr.	Asthenia	2.96	3.39	43	39	1.4	36	+0.43	— 4
11 Ta.	Endometritis	3.01	3.32	65	64	0.4	22	+0.31	— 1
12 Ho.	Diet Def.	3.09	3.36	45	40	0.5	24	+0.27	— 5
13 Bo.	Diet Def.	3.16	3.79	36	52	0.2	75	+0.63	+16
14 Gw.	Diabetes Mel.	3.37	3.54	55	56		24	+0.17	+ 1
15 Mc.	Diet Def.	3.50	3.69	55	52	0.2	27	+0.19	— 3
16 Gr.	Hemorrhage	3.50	4.40	42	59	0.5	27	+0.90	+17
17 Mc.	Hemorrhage	3.90	4.15	55	52	0.6	12	+0.20	— 3
18 Bu.	Hypochr. Anemia	4.00	3.97	67	46	0.5	27	+0.03	—21
19 Cl.	Chr. Arthritis	4.61	4.46	70	68		28	—0.15	— 2
20 Ka.	Hemorrhage	4.61	4.74	51	56	occ.	15	+0.13	+ 5
21 Ln.	Tox. Hepatitis	3.05	3.07	46	49	occ.	18	+0.02	+ 3

Since most of the patients were in outpatient departments of local institutions it is obvious that basal conditions remained unchanged, therefore any hematologic variation must be interpreted as being spontaneous and not induced.

Standardized pipettes were used for counting red blood cells. The hemoglobin estimations were made with a Newcomer hemoglobinometer and occasionally with a Dare instrument corrected by the Newcomer apparatus.

Reticulocytes were stained by the "wet method" of Abrami and Brule, using 0.3 per cent brilliant cresyl blue in normal saline solution.

The stomach tissue used was Ventriculin. Iron, when used, was iron and ammonium citrate or ferric citrate U. S. P. VIII. All medication was given orally, the amounts varying as indicated within the limits described in Table 2.

PERTINENT FEATURES OF THE CONTROL GROUP

There was a predominance of patients in the control group (Table 1) having anemia associated with hemorrhage and dietary deficiency. Many of the patients in the last mentioned category were under the care of welfare and social services, being victims of the prevalent economic depression. There is little doubt that an inadequate food intake was a contributory factor to each patient's anemic condition, even though a moderate degree of food deficiency is usually not believed to be an exciting cause of anemia.

In the last column of Table 1 the change in the hemoglobin and red blood cells is given for each patient. Three of the group showed slight decreases in red blood cells. On the other hand 11 patients lost hemoglobin, the losses varying from 1 per cent to 26 per cent.

It is axiomatic that a state of anemia is a dynamic stimulus to hemopoiesis. Nevertheless, this is more apparent than real in view of the fact that spontaneous regeneration of blood elements, whether occurring in acute or chronic anemia, is arrested usually before normal levels are reached. In the control patients (Table 1), a tendency to

TABLE 2. THE RESULTS OF TREATMENT WITH VENTRICULIN OF 24 PATIENTS HAVING SECONDARY ANEMIA DUE TO VARIOUS CAUSES

Patient's Key No.	Diagnosis	Red Blood Cells (million) Admission	Red Blood Cells (million) Discharge	Hemoglobin Per cent Admission	Hemoglobin Per cent Discharge	Reticulocyte Response	Days of Observation	Change R. B. C.	Change Hemoglobin Per cent
22 Gr.	Tuberculosis	1.80	3.60	23	40	0.9	15	+1.80	+17
23 Kr.	Hemorrhage	1.82	2.04	17	19	2.8	8	+0.22	+ 2
24 Sh.	Diet Def.	2.10	5.08	43	93	4.2	49	+2.98	+50
25 Kn.	Tuberculosis	2.36	3.29	42	60	3.5	8	+0.93	+18
26 Ca.	Hypothyroid	2.48	4.30	35	75	10.0	26	+1.92	+40
8 Sw.	Hemorrhage	2.57	4.90	52	97	16.0	22	+2.47	+45
28 Ca.	Tuberculosis	2.67	3.20	37	50	2.8	5	+0.53	+13
29 Wd.	Syphilis	2.75	4.00	38	45	1.2	60	+1.25	+ 7
30 Wa.	Carcinoma	2.89	3.61	32	45	2.0	57	+0.72	+13
21 Ln.	Toxic Hepatitis	2.93	3.27	47	46		28	+0.34	— 1
9 Ha.	Diet Def.	3.00	4.90	24	58	0.2	61	+1.90	+34
31 Da.	Hemorrhage	3.00	4.24	49	52	3.2	6	+1.24	+ 3
32 Sl.	Syphilis	3.05	4.30	60	80	2.0	28	+1.25	+20
33 My.	Chr. Nephritis	3.06	3.60	65	78	1.2	28	+0.56	+13
34 Zy.	Hypothyroid	3.09	4.70	68	90	1.0	128	+1.61	+22
35 Mi.	Hypothyroid	3.09	5.70	52	97	0.6	119	+2.61	+45
7 Re.	Diet Def.	3.21	4.45	39	45	0.6	31	+1.24	+ 6
11 Ta.	Endometritis	3.30	4.70	64	94	1.0	38	+1.40	+30
36 Pe.	Arthritis	3.40	5.10	85	97	1.2	17	+1.70	+12
37 Dv.	Hypothyroid	3.60	4.91	74	96	0.5	75	+1.31	+22
15 Mc.	Diet Def.	3.69	4.45	52	46		35	+0.76	— 6
13 Bo.	Diet Def.	3.79	5.00	52	45	1.0	35	+1.21	— 7
38 Hu.	Syphilis	3.89	4.82	80	90	0.4	12	+0.93	+10
39 Be.	Diet Def.	4.30	4.95	36	57	0.5	14	+0.65	+21

improvement was evident, especially in anemia resulting from hemorrhage, but it is not a sustained and constant action. It is wholly absent in the chronic hypochromic anemia having a pronounced hemoglobin "lag."

In general, the patients available for control study were not given treatment until it was evident that no further spontaneous regeneration of red blood cells and hemoglobin was to be expected.

THERAPY WITH STOMACH TISSUE

The results of the treatment of secondary anemia in 24 patients are given in Table 2. The amount of Ventriculin used varied between 10 and 30 Gm. daily, the dosage being higher in the more severe grades of anemia.

Patients "8 Sw," "9 Ha," "7 Re," "11 Ta," "15 Mc" and "13 Bo" in Table 2 are to be found in the control group in Table 1. Patient "8 Sw" had an acute blood loss for which he was given 30 Gm. of Ventriculin daily in lieu of blood transfusion. A reticulocytosis of 16.5 per cent occurred in the first 24 hours. The regeneration of red blood cells and hemoglobin was extremely rapid, attaining normal in 22 days.

Patients "8 Sw," "23 Kr," "24 Sh," "25 Ku," "26 Ca" and "31 Da" showed "reticulocyte responses" during the early phase of treatment. Mettier and Minot[3] have pointed out that the degree of reticulocytosis during the treatment of certain sorts of secondary anemia by iron is a fair indication of efficacy and adequacy of therapy.

This criterion is not borne out in my study in patients treated with stomach. Many rapid hematologic recoveries ensued without appreciable reticulocytosis. These notable exceptions in no way minimize the desirability of a reticulocyte response in anemias due to blood loss and dietary deficiency mentioned by Mettier and Minot as being those in which iron is effective in producing this hemopoietic phenomenon. Further investigation is needed before the con-

clusion can be reached that stomach is less effective than iron in eliciting reticulocytosis.

All patients in this group showed satisfactory erythropoiesis under treatment but the regeneration of hemoglobin is seemingly much more difficult for the hemopoietic system to accomplish when an anemic state has existed for some time.

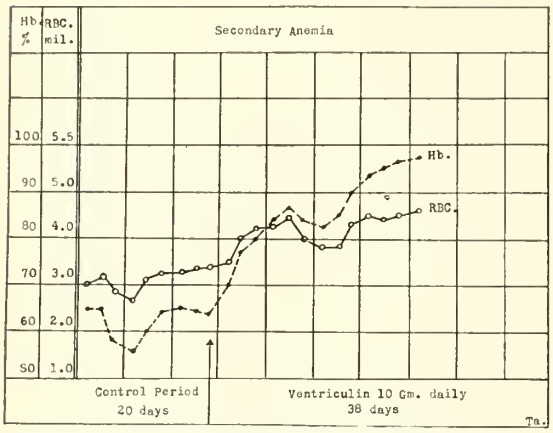

Plate 1. Hemograph of Patient "11 Ta," Tables 1 and 2. Recovery was inconsequential during 22 days control period. Hemopoiesis was stimulated by the daily use of Ventriculin 10 Gm. and the red-blood cells and hemoglobin reached normal in 38 days.

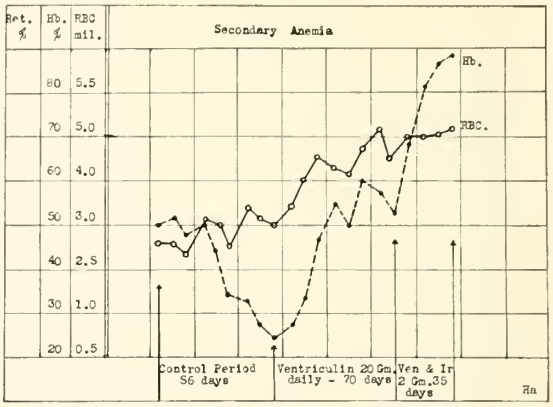

Plate 2. Hemograph of patient "9 Ha," Tables 1 and 2. There was a steady decline in hemoglobin during the control period of 56 days. Both red-blood cells and hemoglobin were exalted by the use of 20 Gm. of Ventriculin daily for 70 days. A slight decrease in hemoglobin occurred necessitating the addition of ferric citrate 2 Gm. to the stomach tissue. Recovery followed rapidly.

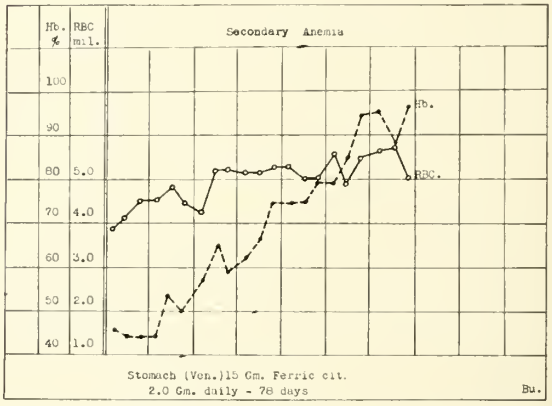

Plate 3. Hemograph of patient "18 Bu," Table 1. During 27 days control period this patient showed a decline in red-blood cells and hemoglobin. The daily use of Ventriculin 12 Gm. and ferric citrate U.S.P. VIII 2.0 Gm. stimulated hemopoiesis and recovery ensued in 78 days.

THE HYPOCHROMIC TYPE OF ANEMIA

About 20 patients having chlorotic anemia have been studied during the past few months. The condition exists chiefly in the female in middle life, and is accompanied usually by general asthenia, achlorhydria and undernutrition. The hemoglobin is generally at a low level compared with the red blood cells, giving a color index of 0.5 or less.

Mills[4] has described this type of anemia under the term of "idiopathic hypochromic anemia" and has submitted clinical data to show that copper and iron are of therapeutic value. Giffin and Watkins[5] refer to this secondary anemia as "cryptogenetic" in character. Waugh[6] has described his cases under the heading of "hypochromic anemia." Adamson and Smith[7] in a recent report regard the condition as chlorosis.

The use of iron in the treatment of chlorotic anemia is believed to be indispensable. In Table 2 all patients showed definite stimulation of red blood cell under treatment with Ventriculin, but patients "23 Kr," "29 Wd," "30 Wa," "21 Ln," "7 Re," "15 Mc," and "13 Bo" exhibited an unmistakable hemoglobin "lag." Only upon the addition of ferric citrate to the stomach tissue in daily amounts varying from 1.8 to 3.0 Gm., was it possible to stimulate hemoglobin formation. Chart 2 shows the effectiveness of stomach tissue in promoting red blood cell formation in chlorotic anemia and its ineffectiveness in restoring hemoglobin to a normal concentration until iron was added to the medicament.

Chart 3 shows the favorable action of iron in chlorosis in a woman of middle age who had a persistent lassitude and a recognized anemic state for several years prior to coming under observation several months ago. Her recovery was rapid, but the recidivistic tendency of an anemia of this

character makes it imperative to follow this patient by frequent blood studies for another year at least. An early recovery does not predicate a permanent cure in hypochromic anemia; therefore close supervision must be exercised and treatment resumed if an appreciable reduction in red blood cells or, more important, in hemoglobin, seems imminent.

SUMMARY

1. An antipernicious anemia factor is known to exist in hog stomach.

2. Meager clinical reports by other observers on the use of stomach in secondary anemia offered no evidence of therapeutic value.

3. Secondary anemia associated with various clinical entities has been successfully treated with stomach alone or in combination with iron.

4. Reticulocytosis has been observed following the use of Ventriculin in secondary anemia. Some patients regenerate red-blood cells and hemoglobin rapidly without exhibiting a definite "reticulocyte response."

5. Cases of chronic anemia having a distinct hemoglobin "lag" are frequently encountered. This anemia requires treatment with iron.

6. Hypochromic anemias show a recidivistic tendency and require supervision for some time after recovery of the red blood cells and hemoglobin.

Note: The author acknowledges with thanks the assistance of members of the staffs of Grace, Harper and Receiving hospitals during this study. Furthermore, the technical assistance of Mr. E. M. Schleicher is gratefully acknowledged.

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NON-SPECIFIC PROTEIN THERAPY IN GYNECOLOGY*

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The principles on which a paper of this nature is based should coincide with known physiologic laws. For a long time now we have assumed that the restoration of abnormal bodily functions accompanied by tissue changes is due to phagocytic activity of the white cell, and, accordingly, any therapy which could increase that activity should be of value. We are not prepared to say that through leukocytosis alone or even in part does the efficacy of the so-called milk treatment depend, but it is a reaction of some kind and the good effects obtained are in proportion to that reaction and in fact constitute a partial guide to our employment of the treatment. We assume that protein therapy increases the activities of all the cells of the body, but particularly those cells which have been affected by infection. Weichardt believes that the results following non-specific protein therapy are due to a definite plasma activation and that the resulting reaction represents a summation of all forces of resistance of which the body is capable. The leukocytes become more active and their number increased.

Von den Velden, Luithlen and Starkenstein, working separately, have each observed the decided alterations that take place in the permeability of the capillaries after non-specific injections. This implies, says W. F. Petersen, that there is an increase in the lymph flow, that the irritability of the nerve cell is increased and there is a freer exchange between blood plasma

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and the cell content; naturally, therefore, when the cells have lost their power for stimulation, from fatigue beyond the point of reaction, no amount of injection of non-specific protein will avail. In the light of our present knowledge, therefore, in all probability the permeability of the cell membrane induced by non-specific protein therapy is the fundamental cause for any good that may come from its use.

This coincides with our clinical experience, namely, that good results from non-specific protein therapy should be anticipated only before the cells have lost their activity, or, in other words, early in the disease.

Physiologists have long since shown that cells of an abnormal character, so long as they are not exhausted or fatigued beyond recovery, are more susceptible to any kind of stimulus than the normal cells are and as a result the defensive cells in this combat for life are whipped up to new activity as seen by a changed condition of the nucleus, an acceleration of cellular metabolism and, as a result of this, phagocytosis is increased. It is the reaction, therefore, not the agent causing it, that is immediately responsible for the results. It may be quite probable that the body has a reserve of non-specific antibodies for emergencies. The non-specific protein treatment with milk was introduced into medical practice by Robert Schmidt of Prague, in 1916. It seems that Saxl, in 1916, was the first to make use of milk injections in infectious disease. In the same year, Gerstein reported that a series of cases of inflammatory adnexal disease were treated at the Hallensar Clinic with milk injection. Since for some reason the results were not good, they determined to try Aolan, which is a fat-free milk product which does not bring about the undesirable symptoms as whole milk. In all, they treated but sixteen cases of pyosalpinx with a total of seventy-five injections. The results with this fat-free product were no better in their hands than those obtained by the usual conservative method. They then determined to revert to the use of fresh cow's milk as advocated by Schmidt. This was sterilized for ten minutes in a water bath and 10 c.c. injected intragluteally. In most cases a fever of one or two degrees developed, lasting for several days. Pain at the site of the injection was complained of but there was no case of abscess formation. In a number of cases a focal reaction was noted as expressed in an exacerbation of pain in the abdomen after the injection.

Voehl tried Caseoson, another milk preparation, inaugurated by Lindig, who claimed that casein represents the potent factor in the milk. The consensus of their opinion is that the results are more or less the same, whatever the form of milk used. This was not found to be true in our clinic at the Receiving Hospital, Detroit, where these various products were all used, but soon discarded because they did not seem to bring about the desirable reactions as were obtained by whole milk. Dr. George Gellhorn of St. Louis was the first man in this country to adopt milk injection therapy in the treatment of pelvic infections. He and many others in America have reported favorable results following this form of treatment. Dr. Gellhorn reported a large series of cases and is continuing its use. Robert Schmidt, who introduced it, selected it because it was always available, even in the remotest village and thus many cases through economic necessity could be treated at the patient's own home, and for the same economic reason many of the city patients who could not be hospitalized might be treated in the out-patient departments. The preparation used in our clinic is that now most commonly accepted, being whole milk which is put up in ordinary test tubes in 15 c.c. quantities, stoppered with sterile cotton and sterilized by placing in a water bath and boiling for ten minutes; the tubes of milk are then kept on ice until used. The site of injection is, preferably, the gluteal area, and a long, thin, very sharp needle is used. When the needle is well in the muscle, it is then withdrawn for a very short distance, to be sure that the point is not in the lumen of a vessel. The injection is made quite slowly and with but little pain, although the bulk of the milk injected may cause momentary discomfort. The initial dose is usually 5 c.c. and occasionally but 3 c.c. if the patient is very weak, or whenever any of the special conditions to be mentioned later among the contra-indications demand caution. The second and third doses are given after an interval of one or two days or after the reactions of the former doses have subsided. Our procedure is to give a series of three injections and observe the patient's re-

sponse to the treatment for two or three days before beginning another series. During this time a pelvic examination is made; a blood count and sedimentation is made, and the patient is kept in bed with the indicated symptomatic treatment.

The use of sterile milk injection was begun on this service in 1924, and up until January of this year 1,207 patients have received this treatment while in-patients of the hospital, and approximately another 1,000 cases have been treated in the out-patient department—in all, there have been at least 8,000 injections given, including those hospitalized and those seen in the out-patient clinic. In not a single instance has abscess occurred.

The types of case treated among the 1,207 hospitalized patients may be classified as follows:

	No.	Per cent
Acute salpingitis	447	37
Subacute salpingitis	374	31
Chronic salpingitis	217	18
Fibroids with acute infection	36	3
Septic abortions	72	6
Pelvic abscesses	36	3
Bartholin abscesses	25	2

Among the chronic salpingitis patients were found cases of chronic pyosalpingitis with low sedimentation rates, which were found at operation and diagnosed from the pathological specimens removed. The majority of these patients, therefore, fall under the head of acute cases and the total percentage may be listed as 82 per cent or 990 cases.

In 975 patients, or 80.8 per cent, they showed a reaction of 100.4 degrees temperature or more, in at least two injections in their series of three. Of the remaining 232 patients, or 19.2 per cent, who did not show this reaction, the majority were cases of chronic salpingitis, as proved by operation.

All the clinics are agreed that any reaction will appear within six to eight hours after injection. It has been our experience that the four readings at two-hour intervals will show the maximum temperature reached at the end of eight hours, which is in keeping with this experience.

As demonstrated in the slides, the time of injection is shown by a vertical line drawn on the temperature chart and the two-hour readings are recorded in red ink. In this manner, a graphic record is presented along with the daily temperature of the patient, and thus a more complete picture of the reaction is available at a single glance.

Fairly uniform symptoms occur in the patient's reaction to the injection of sterile milk, although there may be a variation after one or more injections, and most certainly there is a marked difference in the response of different individuals. There is a general reaction which consists of a chill followed by rising temperature that reaches its maximum in from six to eight hours after injection and subsides usually within twenty-four hours. In our series the chill varies in its length from a few seconds to 46 minutes; the latter having no apparently injurious effect on the patient. The temperature range was from 1.5 to 7 degrees, depending largely upon the acuteness of the disease. Frequently associated with these symptoms are nausea and occasional vomiting, headache and general malaise. Some patients may have a focal reaction which consists of increased pain over the diseased tubes; this, however, lasts but a few hours and is not a frequent manifestation.

Within twenty-four hours after the injection, the general symptoms usually subside and a very interesting phenomenon occurs, which may be termed a condition of euphoria. This has been observed by other clinicians. It has been found more constant among patients who have had a sharp reaction. They feel distinctly better; their pain has been relieved; appetite and general appearance are improved: it is this state of euphoria which makes the treatment of these patients somewhat difficult, since a great number feel so much improved that they insist on going home, against the physician's advice, and in the face of findings which show infection to be still present, although subsiding. An illustration of this type will be shown later on one of the slides.

In our series, there has never been an anaphylactic shock and only three cases have been reported in the literature. All writers are agreed, however, that there are definite contra-indications to the use of sterile milk, for instance:

(1) Cardiac decompensation
(2) Diabetes
(3) Alcoholism

Some still question whether or not pregnancy may belong to this group. Petersen enjoins great caution where there is a

history of hypersensitiveness on the part of the patient (serum sickness, asthma, urticaria, angioneurotic edema and epilepsy or other grave forms of nervous instability). We would like to add pulmonary tuberculosis to this group of contra-indications, since during the past two years we have had two cases of quiescent pulmonary tuberculosis with associated acute salpingitis which have flared up and become active lesions, following the injection of milk.

In practically all these cases of salpingitis, the history and clinical findings have pointed to gonorrheal origin, and it is this type of case which responds best to this form of treatment. The few cases of Bartholin abscess that have shown improvement are those of recent acute illness in which gonorrheal organisms were found, which confirms the findings from Gartner in his treatment of Bartholin gland inflammation.

We have treated 72 cases of septic abortion with sterile milk which have apparently been improved, since the febrile course has been shortened as compared with those who have not received it. The reaction does not seem to be as sharp, however, and the improvement is not as spectacular as those of acute gonorrheal infection. Our findings bear out Gellhorn's contention that exudates are brought to absorption but adhesions are left undisturbed. Certain cases with large adnexal tumors have responded so that these masses have completely disappeared; this has also occurred in a few cases of pelvic abscesses which were not opened and drained.

Under proper treatment with milk, rest and careful supervision, many of these exudative masses respond well, although the more chronic ones do not, and later operation discloses a great deal of fibrous inflammatory tissue associated with the more acute process. This implies, therefore, that those patients who have had repeated attacks are the possessors of much resultant fibrosis and do not respond to the treatment which would be applicable to mere exudates of acute processes.

There were fairly uniform clinical and laboratory findings in the acute cases treated as well as uniform symptomatology. The average temperature before treatment in the acute cases was 100.6 degrees to 101.8 degrees, while the average blood count ranged between 13,000 and 14,500 white blood corpuscles per cubic centimeter. The average leukocyte count, determined shortly after the height of the fever in a series of 582 acute cases, was 15,400 to 16,200 white blood corpuscles per cubic centimeter. The highest leukocyte count in this series after injection was 28,000 cells, while the leukocyte count in the chronic cases before injection averaged 9,200 cells and practically no change occurred after the injection. The average temperature changes following each of a series of three injections may be listed as follows:

1st injection of 5 centimeters....101.8 degree average
2nd injection of 10 centimeters....103.2 degree average
3rd injection of 10 centimeters....103.6 degree average

As I have stated, the highest temperature recorded was that of 107 degrees with no apparent ill effects.

During the past one and a half years the sedimentation rate has been routinely used and followed carefully: 232 patients treated during this period showed the following averages:

186 acute cases.....9-30 min. average 16-20 min.
46 chronic cases.....75 minutes plus

The sedimentation test is of great importance since it shows the presence of infection and pus even after the blood count and temperature have become normal. Of these 1,207 patients, 43 per cent, or 519, have been operated after receiving this form of treatment, while the remaining group have shown such improvement as to refuse operation in some instances, and not require operation in others; 316 cases operated received only three injections of sterile milk and comprised 60.8 per cent of the total cases operated; 16 per cent or 83 patients received less than three injections; and 23.2 per cent or 120 cases were given more than three injections.

The average number of days in the hospital before operation ranged between 7 and 14 days and there were extremely few cases which needed more time and treatment before being ready for operation. Before the use of sterile milk, patients with acute infection or acute exacerbation required 14 to 28 days rest and routine symptomatic treatment before they were ready for operation. As is plainly evident, the use of sterile milk has resulted in a distinct economic saving to these patients. The usual indications for operation were: clinical history of the condi-

tion, clinical findings, normal temperature for several days, white blood count of 10,000 or less, sedimentation rates indicating a subsiding infection, and absence of the usual contra-indications. The only exceptions to these rules were those of pelvic abscesses and a few chronic pyosalpingitis cases which were refractory after a period of treatment. The mortality rate of 1.5 to 2 per cent remained practically unchanged for the entire service because of the requirements already referred to. No frankly acute case of salpingitis was knowingly operated. The use of sterile milk, however, does get these patients ready for operation sooner than if it had not been used.

From the foregoing account, it is not to be assumed that all cases during the past seven years were treated with sterile milk. Each one of these 1,207 patients was selected for treatment after careful deliberation, and consideration of all the data available, including the patient's history, physical and laboratory findings. Each patient was observed after each injection and the response noted, so that it may be said that this is a series of carefully supervised treatments and not a haphazard cure-all.

Milk therapy should be supplemented by the long tried constitutional supportive treatment, such as good food, plenty of water inside and out, fresh air and tonics. Milk is but another remedy placed in our hands for combating pelvic infection, but by no means should it replace those agents which have been employed effectively through the years.

SUMMARY

1. Should cellular repair depend upon the increase of leukocytes and their activity, then it would seem that protein therapy is rational.

2. It is not a specific but should be used as supplementary to other recognized measures.

3. Acute cases of adnexal disease are those most adaptable to its use.

4. The sedimentation of the red cells has been a great help in our selection of suitable cases for this treatment.

5. Those patients who have had repeated infection, with resulting fibrosis, receive little or no benefit.

6. In none of our patients have the reactions done harm where contra-indications were adhered to.

7. In 8,000 injections no abscess has developed at the local site.

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SURGICAL TREATMENT OF SPINAL BLOCK*

REPORT OF A CASE OF PFEIFFER'S BACILLUS MENINGITIS TREATED BY OPEN DRAINAGE

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Meningitis due to Pfeiffer's bacillus in young infants is rare and recovery is decidedly uncommon. The case reported here is interesting because it involves the successful use of a method of treatment which so far as the writers are able to learn has not been employed; namely, open drainage of pus within the meninges of the spinal cord.

CASE HISTORY

D. M. F., white, female infant, age eight weeks, born February 14, 1930.

April 14, 1930. Chief Complaint: Vomiting.

Past History: Full term, normal delivery, the firstborn of parents who were in good health. Present illness began two weeks previously, when the child became irritable and had several attacks of vomiting. This persisted for a week and then the child appeared well. When first seen the child had been sick one day. She was extremely cross and irritable and had vomited several times although it was not apparently of the projectile type.

A physical examination showed a well developed, well nourished female white child who was extremely irritable. Rectal temperature was 103 F. The general physical findings were essentially negative as well as those of a neurological examination.

The urine showed a considerable amount of pus with some clumping. The following day twitching of the lower extremities was observed. There was no bulging of the fontanelle, the neck was not stiff, and the Kernig and Brudzinski signs were negative. Because of the possibility of meningeal irritation, a spinal puncture was attempted. No fluid was obtained, so a cisternal tap was done. The fluid was not under pressure, it was clear, and examination showed only ten cells. There was no globulin, and a practically normal sugar. Culture was negative. The symptoms persisted for a week, then the temperature gradually subsided and pus disappeared from the urine. She was asymptomatic for four or five days and then there was a recurrence of the irritability, vomiting and fever. A second lumbar puncture was attempted, which again gave no fluid. It was believed that the diagnosis was encephalitis. The child's condition did not improve during the next few days, so she was admitted to the hospital and transfused by the direct method from a child who had had an attack of encephalitis six months previously. A cisternal tap at the time of transfusion showed no increase in pressure. There was a small amount of blood obtained with the fluid, so it was impossible to determine whether there was an increase in cells. Culture made at this time was negative. For ten days there was marked improvement, the temperature approached normal, the twitching disappeared, and the irritability became markedly decreased. Then the symptoms became more severe, and on the fourth of June the child's temperature reached 104 F. Because of the success of the first transfusion it was repeated, using the same donor.

Laboratory studies showed a red blood count of 3,750,000 cells. White blood cells 73,800, with 74 per cent polymorphonuclear neutrophiles. The following morning the blood count had dropped to 29,500 white blood cells with 59 per cent polymorphonuclear neutrophiles. A cisternal puncture showed a normal fluid with a negative culture. The following day the child again appeared much better, the temperature dropped to 101 F. and fluctuated between 100 and 101 F. for the next four weeks. On the first of July it was noticed that there was a diminution in the reflexes of the lower extremities, and the child began to vomit again at irregular intervals. The temperature fluctuated from 99 to 103 F. and pus reappeared in the urine. On the eighteenth of July, a spinal puncture was again attempted and by using a syringe connected to the needle it was possible to withdraw a small amount of thick pus. During the period between the first and eighteenth of July it was also noticed that the child's head was becoming gradually retracted. Physical examination on the eighteenth of July showed a fairly well developed and nourished child, resting comfortably with her head retracted. The tissue tone was poor and the mucous membranes were extremely pale. The fontanelle was patent and not bulging. There was a partial paralysis of the abdominal muscles and a complete flaccid paralysis of the lower extremities. The pus obtained by lumbar puncture showed Pfeiffer's bacillus both in the direct smear and on culture. The fluid from the cistern showed a normal cell count, faint trace of globulin, normal sugar and no organisms. Air was introduced in an attempt to outline the block but was unsuccessful and X-rays of the spine were entirely negative. Because of the conclusive demonstration of a block and the fact that the course had been progressively unfavorable, it was decided to attempt an open drainage.

On July twenty-second a laminectomy was done. An incision was made over the lumbar spine. The spinous processes of the third and fourth lumbar vertebrae were removed. The dura was opened and about ten cubic centimeters of pus escaped. This was under tension. The upper end of the wound was closed and a rubber drain was placed in the lower angle.

The child withstood the operation very well, and the following morning appeared considerably better. On the seventh of August she was discharged from the hospital with a normal temperature, in apparent good health. The wound was completely healed. During the next six weeks the paralysis of the abdominal muscles and of the lower extremities almost entirely disappeared.

On the first of October, the child again became

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restless and irritable. Her temperature rose to 101 F. and she refused food. Two days later she began to vomit and her temperature remained elevated. On the eighth of October, lumbar puncture and aspiration showed a small amount of pus. Physical examination showed a recurrence of the flaccid paralysis of the lower extremities. The following day the child was operated again.

An incision was made through the old scar. Pus was encountered in the subcutaneous tissue. Upon proceeding further it was observed that pus was escaping from the intradural space. This was again opened widely. No effort was made to close the wound.

Following the operation the child's general condition was very good. Her temperature ran a septic course gradually approaching normal on the twenty-second of October. On the twenty-fourth of October, her temperature again rose and examination of the urine showed numerous pus cells. Since then there has been no recurrence of the spinal abscess and there has been a gradual return of the tone and reflexes of the abdominal muscles and muscles of the lower extremities. At the present time the child is able to stand and walk when supported. The child's general condition is excellent.

DISCUSSION

This case is reported because of the rarity with which the diagnosis is made and because of the treatment. When one fails to obtain spinal fluid by lumbar puncture and finds a normal cisternal fluid, even though the case appears to be one in which there is some spinal involvement, it is usually felt that the lumbar puncture was not properly done. This case shows the importance of aspiration when doing a spinal puncture.

If pus is obtained from the lumbar puncture and a normal fluid from the cistern, open drainage would seem to be the method of choice. In a case similar to the one reported, where an attempt was made to wash the spinal canal from the cistern, the infection was spread through the cerebro-spinal system. Meningitis developed and the child promptly died.

CONCLUSIONS

1. A case of Pfeiffer's bacillus meningitis which healed spontaneously by walling off the infection in the spinal cord is reported.
2. Open drainage of the walled off process was done successfully.
3. Open drainage would seem to be the method of choice when pus is obtained by lumbar puncture with normal cisternal fluid findings.
4. Cases presenting obscure symptoms suggestive of cerebro-spinal involvement should be examined carefully to rule out walled off pus within the spinal meninges.

PRACTICAL PROBLEMS IN POLIOMYELITIS*

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Cogent problems in clinical interpretation and judgment arise from the changing concepts of poliomyelitis. The condition no longer is considered a relatively rare infectious disease of the central nervous system, but, by contrast, a common and widely distributed general systemic disease, seldom progressing to involvement of the central nervous system. This revision of attitude has stimulated endeavor toward diagnosis of the disease before paralysis occurs.

I often use the homely expression, that diagnosis of poliomyelitis in its early stages rests upon a healthy suspicion and a lumbar puncture. This discussion defines more precisely just what constitutes that healthy suspicion, with particular emphasis on the "healthy" part of the definition. Case histories will serve to illustrate the principles that have directed conduct of a relatively large group of suspected cases. Paralytic poliomyelitis will be considered in relation to prognosis and treatment.

CLINICAL NATURE OF POLIOMYELITIS

The clinical course of poliomyelitis has been well differentiated into three stages. These are better appreciated by reference to the accompanying chart (Fig. 1).

The first stage represents the early systemic manifestations of the disease. The major symptoms include fever, averaging

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between 101 F. and 102 F., headache and some disturbance of the gastro-intestinal tract, commonly indicated by nausea and vomiting. This stage of the disease usually

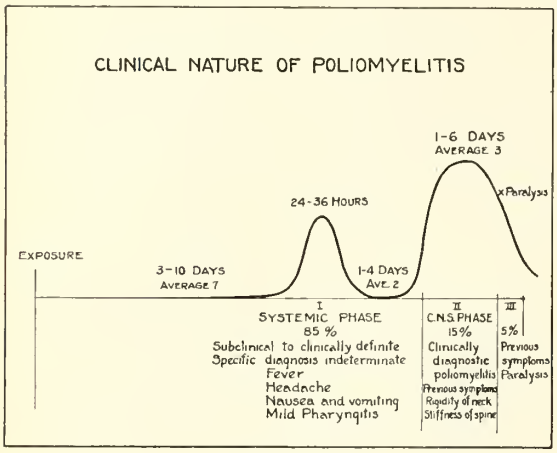

Fig. 1

lasts from 36 to 48 hours. Many times it is clinically definite and recognizable as a disease process, but perhaps more frequently these symptoms are of such minor degree as to escape attention, or, indeed, the process may be of subclinical nature, not recognizable by ordinary diagnostic criteria. Granted, however, that the morbid changes are sufficiently distinct to constitute recognizable disease, the identity of the infection, nevertheless, remains indeterminate at this time. The systemic phase of poliomyelitis presents no characteristics definitely qualifying it as such.

The disease may or may not progress beyond the initial phase. Commonly it does not. In the event that it does, a latent period usually intervenes before symptoms of clinical progression become manifest. This lag period usually lasts from one to four days, averages two days, and occasionally extends more than a week. By contrast, the latent period may not develop at all, the clinical course being a rapidly progressive one comparable to that of fulminating infections in epidemic meningitis and other diseases. Involvement of the central nervous system is the outstanding feature of poliomyelitis in its second stage. Fever recurs and the headache returns with increased intensity. There are definite indications of meningeal irritation; stiffness of the neck and tenderness or rigidity of the spine. Vasomotor disturbances may be present, with the tache cerebrale prominent. Muscular tremors indicating the probable site of future paralyses are not uncommon, and, indeed, often precede rigidity of the spine or neck. Paralysis may be anticipated, on an average, by the third day of this second stage. The disease can be determined clinically as poliomyelitis before that time. This is the stage of the disease commonly designated preparalytic poliomyelitis.

Determination of poliomyelitis of the third stage, that of definite paralysis, is not a difficult matter.

Lacking more definite diagnostic criteria for the systemic stage, the relative proportion of cases in each of these three groups can not be determined with any degree of accuracy. Yet it is interesting, and of perhaps practical value, to attempt some quantitative estimation. Thus I would feel that perhaps 80 per cent of all clinically recognizable infections progress no farther than the first stage, with 20 per cent showing some suggestion of involvement of the central nervous system. Even in the latter group, the process is commonly self-limited before paralysis develops. The proportion of all affected persons who actually develop paralytic phenomena is very likely less than 5 per cent.

With this general conception of the clinical nature of poliomyelitis, may we now consider the practical management of patients suffering from illnesses suggestive of poliomyelitis in its early stages.

SYSTEMIC PERIOD IN POLIOMYELITIS

We must admit complete inability to exactly designate an infection as poliomyelitis, when the signs and symptoms are limited to those of a purely systemic invasion. Observation of many such patients permits the opinion, however, that they present a rather uniform clinical appearance. By comparison with others in the early stage who eventually progress to paralysis, there is usually no reason to doubt that they actually are cases of poliomyelitis. The following case history illustrates this type of infection:

Case 1.—Patient Kenneth B., Case Number 18657, was a boy four years of age who became acutely ill on September 23, 1931, with a fever and headache. He vomited that day, also the next and the following one. His illness was attended by diarrhea on the day of onset, and shortly thereafter he complained of abdominal pain. There was a

question in the mind of his physician whether or not he actually had stiffness of the neck. He was admitted to the hospital on the third day of illness. Physical examination at that time revealed a general blotchiness of the skin, apparently of vasomotor origin. The mucous membranes of the pharynx were moderately injected. The tongue was coated. Examination of the heart and lungs was without moment. No stiffness of the neck or spine could be determined. Examination of the skeletal muscles revealed no weakness or tenderness. The abdominal reflexes could not be elicited. Deep tendon reflexes were without change. The blood count at this time revealed 4,130,000 erythrocytes, hemoglobin 70 per cent, total leukocytes 6,100, of which 34 per cent were neutrophiles and 66 per cent lymphocytes.

In the absence of clinical evidence of meningeal irritation (rigidity of the neck, stiffness of the spine or muscular tremors) spinal juncture was deferred. On the day after admission to the hospital the maximum fever was 99.2 F., subsequently was within normal limits, and by the sixth day of illness the child had completely recovered from his indisposition. No progression beyond a systemic infection was noted, and yet the clinical nature of his illness was precisely that many times observed with patients ultimately developing paralysis. The problem presented the attending physician, of just what to do under such circumstances, is by no means an easy one. The management of these cases involves certain definite considerations.

Rest in Bed.—Complete rest constitutes the most important single principle in the management of patients with the paralytic form of poliomyelitis. It should be prescribed just as rigorously for patients with the general systemic infection and may be the factor which determines limitation of the disease. If the fever subsides and no evidence of progression is noted after seven days, restriction may be less rigid, but rest in degree should certainly be advised for another week.

Convalescent Serum.—Due to the indeterminate nature of the illness at this time, and the meager supply of convalescent serum usually available, administration of the serum is not generally advised, the recommendation being to await more definite indications. The majority of these patients will recover spontaneously, and yet I wonder, if sufficient convalescent serum were available, whether it might not be put to its best use at this time, injected in moderate amount intramuscularly as a preventive measure rather than a strictly therapeutic one.

Injection of Whole Blood.—Evidence obtained within the past few years by Aycock has demonstrated that the blood serum of many normal adults will neutralize the virus of poliomyelitis. The content of protective substances in such serum is generally less than that of serums from persons convalescent from true infantile paralysis. Persons who have lived continuously in large cities evidence this protective power more commonly than do persons residing in rural districts.

It is logical to assume that the injection of such whole blood may act prophylactically if used early in the disease, although its actual value has not been determined. In a rural district in Michigan where eleven cases of paralytic poliomyelitis were reported in the first two weeks of August, the use of intramuscular injections of whole blood was advised for patients suggesting systemic poliomyelitic infection. The idea was enthusiastically adopted by the physicians of the community. Only one case of paralytic poliomyelitis has since been reported. Although this can not be advanced as evidence of the efficacy of this procedure, the drop in frequency occurred at a time when the peak of the outbreak could have been expected, judged by experience in other parts of the state where the general decrease began about the middle of September.

Lumbar Puncture.—Spinal puncture has been performed in sufficient numbers to determine that it is of no value at this time. The spinal fluid will regularly be found normal. This observation was anticipated because an increase in the number of cells in the spinal fluid is the result of meningeal irritation, the symptoms of which are not yet present. The increase in cell count does not precede the symptoms of meningeal irritation.

Communicable Disease Report.—Since it is impossible to determine the identity of the disease at this time, the case should not be reported to the health authorities as one of poliomyelitis. Such reports only confuse the epidemiological interpretation of poliomyelitis currently prevalent. It should be considered as a suspicious case, with posting of a warning sign the recommended administrative procedure, rather than rigid isolation and quarantine.

CENTRAL NERVOUS SYSTEM INVOLVEMENT IN EARLY POLIOMYELITIS

With the advance of the infectious process to meningeal involvement the most difficult time in the clinical management of poliomyelitis arrives. The problem demands exact niceties in judgment, and, above all, I should like to enter a plea that the physician here remain a clinician, guiding his procedures by clinical judgment.

Lumbar puncture at this time may be of inestimable value in permitting a diagnosis not otherwise possible, but if the indications are carefully determined there will be relatively few surprises when the spinal fluid is examined. There is danger of being too conservative and delaying spinal puncture and a confirmed diagnosis until the results to be expected from convalescent serum are less satisfactory. There is equal possibility of performing lumbar puncture prematurely and unnecessarily.

One is well guided to defer lumbar puncture until the indications are exact. The opportunity to intelligently interpret subsequently developing symptoms may be lost. If the lumbar puncture reveals a normal spinal fluid and later indications present for a second puncture, the simple traumatic irritation of the first puncture may lead to a slight increase in cells just sufficient to cloud the picture. There is the possibility that the first puncture may give a sanguineous fluid, particularly if the patient is young and not readily restrained. Such result makes valueless any subsequent lumbar punctures. Another consideration involves the possibility of initiating central nervous system involvement, as a result of drainage of spinal fluid, through permitting readier penetration of the virus through the choroid plexus. The available experimental evidence is contradictory, but the possibility warrants consideration. Since paralysis most commonly develops on the third day, it would appear that patients seen early with indefinite clinical symptoms present no great urgency for lumbar puncture. On the other hand, if the patient is seen late the necessity for lumbar puncture is usually apparent.

The guiding signs are stiffness or rigidity of the neck and stiffness of the spine. These are associated with headache, fever, and, commonly, nausea and vomiting. Muscular tremors and tenderness of an extremity are just as significant. If these things can not be demonstrated and there is simply an unconfirmed history of back pain or questionable resistance of the neck, I think one may well continue observation, deferring examination of the spinal fluid. If one or more of these signs is present, lumbar puncture should be done immediately.

DIFFERENTIAL DIAGNOSIS

Before proceeding to examination of the spinal fluid in a suspected case, it is well to carefully review and evaluate the clinical evidence, to eliminate other conditions which may be confused with poliomyelitis.

Certain outstanding symptoms are of value in discounting the probability of infantile paralysis. Unnecessary alarm both to the physician and to the parents may be avoided by attention to certain cardinal clinical criteria. The possibility of poliomyelitis is commonly suggested by inability of the patient to properly use one of the extremities. This may actually be paralysis, or may be due to some other cause. Swelling of the affected part is generally sufficient to eliminate poliomyelitis. One should consider as the more probably underlying cause, osteomyelitis, epiphysitis, suppurative arthritis, and, particularly, acute rheumatic fever. All have been encountered in the practical differentiation of poliomyelitis.

Patients with infantile paralysis are many times first seen by the physician when weakness of some muscle group is already present. One should not neglect a careful history of the preceding illness. With poliomyelitis, paralysis develops within a relatively few days after onset. If paralysis occurs at a time far removed from the acute illness, a matter of many days, the condition is probably not poliomyelitis, but more likely a similar paralysis which occurs long after a severe infection with diphtheria.

The fever with poliomyelitis is low grade, commonly from 101 F. to 102 F., and not infrequently is even lower. At times the fever may be well elevated, but in general one may suspect any infection with a fever of 104 F. or more as probably not being due to the virus of poliomyelitis. If the fever is of a septic type, the suspicion is more definite that some other infectious agent is responsible. This one factor alone often permits differentiation from pyelitis, suppurative otitis media and typhoid fever. With all of these conditions and particularly

with pneumonia, young children not infrequently have meningismus. This state, with the high fever, usually suggests the proper interpretation.

Poliomyelitis not uncommonly has as an early symptom a mild nasopharyngitis. At times this infection may be more severe and resemble closely an ordinary tonsillitis. The reaction of the regional lymph nodes is an important consideration. Some enlargement of these structures can regularly be demonstrated in poliomyelitis, but a marked lymphadenitis is suggestive of some other condition, particularly tonsillitis and sometimes scarlet fever.

Emphasis has been placed on the general systemic nature of poliomyelitis and excellent evidence exists that the lymphatic structures are chiefly affected. At necropsy the mesenteric lymph nodes are prominently involved. Hyperplasia of Peyer's patches may be so marked as to suggest typhoid fever. Hyperplasia of the spleen is regularly present. These changes furnish the underlying cause for the abdominal tenderness, the nausea and vomiting initiating this disease. Abdominal tenderness in poliomyelitis is usually low grade and diffuse. Distinct local tenderness, particularly in the right lower abdominal quadrant, should raise very definitely the suspicion of an acute appendicitis. I have twice seen perforated appendiceal ulcer referred as poliomyelitis, and typhoid fever in five instances.

The following table represents an experience with 353 cases having an original tentative diagnosis of poliomyelitis. The conditions represented furnish practical illustration of the many problems which arise in clinical differentiation of this specific infectious disease.

Many patients of this group were dismissed with a diagnosis of nasopharyngitis. All presented a clinical picture corresponding to the systemic phase of poliomyelitis. Lacking progression to more definite manifestations, an anatomic diagnosis of nasopharyngitis was made.

TABLE 1

DIFFERENTIAL DIAGNOSIS OF POLIOMYELITIS

Disease	Number of Cases	Per Cent Total Admissions
Poliomyelitis	202	57.2
Nasopharyngitis	44	12.5
Meningococcus Meningitis	13	3.7
Otitis Media	11	3.1
Tuberculous Meningitis	11	3.1
Tonsillitis	10	3.0
Enteritis, acute	7	1.9
Rheumatic Fever, acute	6	1.7
Pneumonia	6	1.7
Osteomyelitis	3	.9
Typhoid Fever	3	.9
Encephalitis	3	.9
Influenza	2	.6
Streptococcus Meningitis	2	.6
Meningismus	2	.6
Scarlet Fever	2	.6
Hysteria	2	.6
No Disease	2	.6
Septicemia	1	.3
Fracture of Skull	1	.3
Traumatic Injury to Hip	1	.3
Spastic Paraplegia	1	.3
Cerebral Hemorrhage	1	.3
Spastic Paraplegia and Nasopharyngitis	1	.3
Subacute Bacterial Endocarditis and Lymphatic Leukemia	1	.3
Traumatic Injury to Knee	1	.3
Whooping Cough	1	.3
Acute Catarrhal Jaundice	1	.3
Epiphysitis	1	.3
Tetanus	1	.3
Migraine	1	.3
Erysipelas	1	.3
Pyelitis, acute	1	.3
Hemorrhage, intracranial	1	.3
Edema of Brain with Convulsions	1	.3
Serum Sickness	1	.3
Acute Pharyngitis	1	.3
Acute Appendicitis	1	.3
Status Epilepticus	1	.3
Mastoiditis, chronic, with Multiple Pulmonary Abscesses	1	.3
Total	353	100.0

MANAGEMENT OF POLIOMYELITIS—STAGE OF MENINGEAL IRRITATION

The statement of these principles of direct and differential diagnosis is a simple matter; their interpretation and application are oftentimes difficult. Actual case histories may suffice better than any other means to illustrate practical bedside application.

Case 2.—Patient William K., Case Number 18718, was a white boy six years of age who became ill on August 2, 1931, with symptoms suggesting a mild nasopharyngitis. His throat was more irritated than sore. The next day he felt relatively well. The third day was marked by a return of symptoms. He vomited once, complained of severe headache and had a fever of 101 F. Attacks of vomiting were again noted on the fourth day and the fever reached 102 F. He complained now of backache, but no real stiffness of the spine could be demonstrated. His physician had the impression of some increased resistance when the neck was flexed. Physical examination demonstrated no abnormalities of the reflexes; the same indefinite impression of possible rigidity of the neck was obtained. Lacking certain evidence, continued observation was recommended, with spinal puncture deferred unless progress of symptoms was noted. The temperature was normal the following morning, but rose to 100.2 F. in the

afternoon. The backache disappeared. No stiffness of the spine or neck developed. The sixth day found the boy apparently returned to normal health. The blood count showed 7,600 leukocytes with 68 per cent polymorphonuclears.

The course of this illness suggested poliomyelitis. Despite inexact evidence, I believe it was an abortive poliomyelitic infection. This history was suggestive of early meningeal involvement, but the physical signs were not sufficiently definite to warrant spinal puncture.

The next case history represents an infection somewhat more definite, but still with an element of doubt; truly a borderline case. No other situation in poliomyelitis offers comparable difficulties in diagnosis; nor so taxes clinical judgment as to management.

Case 3.—Delmay W., Case Number 18657, was a little girl four and one-half years of age who became ill September 20, 1931. She had fever and complained of headache and pain in the abdomen. She vomited. After this transitory illness she improved, with symptoms returning on September 23. On the 24th she complained of tenderness of the right leg. She was admitted to the hospital on that day with a fever of 101.6 F, pulse 126 and respirations 25. Physical examination revealed a well developed and nourished child, somewhat apprehensive but coöperative. She appeared acutely ill. The skin was warm and moist. There was no rigidity of the neck and no spine sign. The tongue was coated, but the mucous membranes of the throat were apparently normal. The heart and lungs were clear. The abdominal reflexes could not be elicited, but all others were present and active. There was no weakness or paralysis of any of the extremities, nor could tenderness of the supposedly involved leg be determined. No muscular tremors were observed. Blood count was 3,630,000 erythrocytes, hemoglobin 70 per cent, 5,300 leukocytes with 69 per cent neutrophiles, 30 per cent lymphocytes and 1 per cent transitionals.

The only abnormality elicited by physical examination was absence of abdominal reflexes; this associated with a history of tenderness of the right leg. In the absence of more concrete evidence, spinal puncture was omitted. No additional findings were noted that evening, but upon re-examination the following morning the knee jerks could not be determined, nor could the Achilles jerks be elicited. The abdominals, absent the day before, were now present, but sluggish. There was some slight resistance of the back to flexion, and the right thigh muscles were tender. Lumbar puncture was now indicated. Examination of the spinal fluid showed 10 cells per c.mm., and a faint trace of globulin. Sugar was present in the proportion of 157 milligrams per 100 ml. of fluid. Essentially no additional information was contributed. The findings were neither frankly positive nor negative.

One asks a difficult question as to just what to do under such circumstances. I would not consider it advisable to give serum intraspinously. The infection was so strongly suggestive of poliomyelitis that I advised administration of convalescent serum intravenously. The following day the temperature subsided to normal limits. The knee jerks could now be obtained by reinforcement on the left, but not on the right. There was no neck rigidity and no stiffness of the spine. Additional serum was not given, nor was another spinal puncture deemed advisable. Had there been stiffness of the neck or increase in the amount of resistance of the back, lumbar puncture would have been done, and in the event of an increased number of cells to significant limits, serum would have been given intrathecally. No paralysis has developed and the patient has completely recovered. The case was reported as poliomyelitis.

In the case next presented, the problem is not a difficult one.

Case 4.—Patient Albert W., Case Number 18698, was a youngster five and one-half years old, who became ill on September 26, 1931, with the usual symptoms of fever, headache and vomiting. After that he was well for several days, but on September 30 had a recurrence of headache and vomiting, and complained of pain in the back. On the third day of this second illness, October 2, he was admitted to the hospital with a fever of 102.8 F., pulse 140 and respirations 32. Physical examination revealed a child acutely ill. A vasomotor disturbance was indicated by hyperhydrosis and a blotchy appearance of the skin. The tache cerebrale was readily elicited. Mucous membranes of the throat were mildly injected, and the tongue was coated. No weakness or paralysis of muscle groups could be determined. The reflexes were present and equal, but the neck was moderately stiff and the spine sign was definitely and distinctly positive. Blood examination revealed 4,720,000 erythrocytes, 80 per cent hemoglobin, 14,300 leukocytes, 76 per cent neutrophiles, 24 per cent lymphocytes and 1 per cent metamyelocytes.

The clinical signs left no doubt regarding what should be done. The blood picture showed a different type of reaction, the leukocytosis associated with inflammation of a serous membrane, rather than the leukopenia accompanying lymphatic infection. Pain in the back, stiffness of the spine and rigidity of the neck gave clear cut indication for immediate lumbar puncture. A clear fluid containing 33 cells per cubic mil-

limeter was removed under increased pressure. Serum was administered intraspinously and intravenously. Spinal puncture was repeated the next day. In the absence of increased pressure, drainage of the spinal canal was done, but serum omitted. The temperature was normal on the third hospital day and has so continued. No paralysis or weakness of muscles developed. This case represents a clear cut instance of preparalytic poliomyelitis.

The management of patients with clinical signs suggestive of meningeal irritation may be briefly outlined as follows:

Rest in bed should be continued for at least three weeks with modified restriction past that period. Paralysis or weakness of muscle groups, if it is to appear, usually occurs within four or five days but may be delayed up to twelve days. Rest rigidly prescribed during this period is excellent preventive medicine.

Close observation, preferably under hospital conditions.—This will permit careful and continuous nursing and medical observation, including record of the temperature curve. Under hospital conditions spinal puncture may be delayed until such time as it will be most helpful. Close observation is particularly important with suspicious cases.

Promote elimination by the use of saline laxatives and intake of sufficient fluids.

Lumbar Puncture.—The indications should be carefully determined in accordance with the principles presented. With definite signs of meningeal irritation examination of the fluid should follow without delay.

Serum Treatment.—If examination of the spinal fluid confirms the diagnosis of poliomyelitis, convalescent serum should be given both intraspinously and intravenously at the time of the first puncture. The principle of limiting serum treatment by the intraspinal route to definitely confirmed cases is a commendable one. If the supply of serum is adequate, the use of serum intravenously with doubtful or suspicious cases is well advised.

Intramuscular Injection of Whole Blood.—If convalescent serum is not available this procedure is recommended, particularly for early and questionable cases. The results obtained can not be expected to compare with those obtained by the use of convalescent serum, but the procedure is logical.

Communicable Disease Report.—In the absence of definite confirmation of the disease in its preparalytic form by lumbar puncture, cases should not be reported as poliomyelitis. These are suspicious but not confirmed infections. With signs and symptoms compatible, and significant findings upon examination of the spinal fluid, the case should be reported as poliomyelitis regardless of whether or not paralysis is present or subsequently occurs.

PARALYTIC STAGE IN POLIOMYELITIS

With every advantage of early diagnosis and serum treatment, paralysis will still develop in a certain percentage of cases, although to a lesser degree. Some cases are first recognized because of paralysis. The necessity for discovering slight weaknesses in supposedly non-paralyzed cases has been emphasized. The treatment of paralysis, once established, presents distinct problems at various periods.

The treatment of acute paralysis while pain persists due to nerve irritation is one in which rest and prevention of deformities are the important factors. The rest should be scientifically controlled and absolute for those muscles involved. This is accomplished by the careful use of the various splints and frames prescribed by a physician trained in orthopedic surgery. Heat has proven of definite value, through increasing the circulation of blood to the affected member and by conducing to the comfort of the individual. This type of management should be conducted under careful supervision until all tenderness has disappeared. In the usual case this will be approximately six weeks.

When the tenderness has completely disappeared the patient enters a long period during which muscle function gradually improves. This process may require anywhere from six months to three years, and should be guided by a carefully planned program of muscle training and physiotherapy. This training is best entrusted to those skilled in this type of work.

Paralysis remaining after the full potentialities for muscle recovery have been realized, may require surgical intervention to counteract as far as possible the disabilities due to the residual paralysis.

SUMMARY

Changing concepts of the clinical nature of poliomyelitis have produced new clinical problems. Precise diagnosis no longer is limited to patients with paralysis. The disease may be determined in its preparalytic stage.

Recognition of poliomyelitis before paralysis, permits convalescent serum therapy under favorable conditions. Statistical results indicate a lower case fatality and fewer residual paralyses.

The clinical course of poliomyelitis has been differentiated into three stages: an initial systemic one, the preparalytic period of meningeal irritation and a final paralytic stage. Early diagnosis depends upon a healthy clinical suspicion and a lumbar puncture. The clinical features which serve to formulate that well grounded suspicion are discussed in detail. A program is presented for management of the disease in its several stages.

TREATMENT OF INFANTILE PARALYSIS RESULTING FROM POLIOMYELITIS*

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The unusual prevalence of poliomyelitis this year makes discussion of its various phases especially interesting. A symposium on the disease is to be held tomorrow morning in the pediatric section. For this reason I have felt justified in presenting a brief résumé of the surgical aspects of the disease to this section. As an introduction, it will be well to go over the extraordinary advances that have been made during the past few years in our knowledge of the symptomatology, method of transmission and treatment of the preparalytic stages.

The infectious agent has not been isolated but we know that it is a filterable virus. We know that it is highly contagious and that it is directly passed from one individual to another probably through the nasal and pharyngeal secretions. We believe that only a very small proportion of individuals infected develop paralysis. It is probable that the great mass of the population, especially in crowded areas, have had the disease and established an immunity to it before reaching adult life. This explains the greater frequency of the disease in children. We know that it is a general systemic infection which, under certain conditions of lowered individual resistance and increased virulence, has a special predilection for the anterior or motor cells of the spinal cord or the cells of the cerebral bulb. Thus when paralysis occurs it may be of the skeletal-muscular type or of the cerebro-bulbar type. The latter is frequently fatal. The incubation period is from three to seven days, at the end of which time the first symptoms occur. These usually take the form of gastro-intestinal disturbances, often of very mild character, with a slight temperature and slight pharyngitis. Nausea and vomiting are sometimes present. Physicians and the families of patients should be keenly alive to the significance of these prodromal symptoms during the months of July, August and September, when poliomyelitis is most frequent. Following this period there are two to five days of complete absence of symptoms. Then appear the symptoms of the second stage. These are particularly referable to irritation of the central nervous system, fever, headache, nausea and vomiting, prostration, and, most important of all, pain and stiffness in the neck and back. This latter is almost pathognomonic and is often accompanied by Kernig's sign. It is sometimes so severe as to resemble cerebrospinal memingitis. The early recognition of this stage is of the most profound importance, because efficient treatment at this moment provides a guarantee against the development of paralysis. It is at this stage that positive diagnosis is made by spinal puncture. The spinal fluid shows an

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increased and increasing cell count of from forty to several hundred cells. These are mostly polymorphonuclear cells and there is an increase of globulin in the fluid. The pressure of the fluid, too, is increased.

Fig. 1-A. Paralytic deformities before treatment.

Fig. 1-B. After treatment and correction.

The moment that the diagnosis is confirmed by examination of the spinal fluid, two possible forms of treatment are open for our use. The first is the use of human immune serum as first described by Aycock. It is made by mixing the blood sera obtained from several known cases of recovered poliomyelitis. It is used by injecting into the spinal canal, preferably at the time of the diagnostic puncture, an amount of serum somewhat less than the amount of fluid withdrawn. Ordinarily this will be less than thirty cubic centimeters. It is best at the same time to inject a similar amount of serum intravenously. Ordinarily one injection is sufficient. If immune serum is not available the second form of treatment is of very great value. This consists of repeated spinal puncture carried out as long as there is any increase of pressure. Many cases have been saved from paralysis by this method.

In spite of the success of the treatments outlined above, paralysis does still develop in many cases, because the diagnosis and treatment have been delayed. The treatment of this paralysis is purely a surgical problem and may be divided into three stages.

I. Treatment of the acute paralysis while pain due to nerve irritation is still present (approximately six weeks).
II. Treatment of the stage of recovery during which muscle function gradually improves. This period may last any-

where from six weeks to three years.

III. Treatment by surgical operation to counteract, so far as possible, the disabilities due to the residual paralysis.

Fig. 2-A. Paralytic deformities before treatment.

Fig. 2-B. After operative correction.

Of these three stages probably the first is most important. Certainly more harm is done by ill-advised treatment during this period than in either of the others. It is a common misconception both of physicians and the laity that the acutely paralyzed muscles should be exercised to keep them from further weakness. Nothing is further from the truth. During the first stage while pain is still present, absolute rest with protection from stretching is essential. This is true because the muscle fibres which have lost their innervation are friable, and irreparable harm may be done by stretching or other form of trauma. No one can predict how great the restoration of innervation of any muscle through recovery of nerve cells will be. It may be complete or it may be negligible. If the muscle fibres themselves are traumatized by massage, exercise or stretching while they are without innervation, they will have lost their power of contraction when and if their nerve supply returns. So the keynote of the treatment of the first stage of paralysis is rest, complete and absolute. This rest can only be obtained by efficient splints which hold the paralyzed extremity, every moment of the time, in such a position that the damaged muscles are relaxed. Such splints can be easily extemporized from materials found in any home, wire, padded boards, pillows, sand bags, any-

thing which will hold the paralyzed muscles in relaxation. A most useful adjunct to rest in this stage of the paralysis is some form of heat—hot water bottles, electric pads, electric lights arranged in some form of reflector, hot compresses or radiant lights. All are good and the heat from them should be applied to the damaged muscles two or three hours a day. The heat serves two purposes: first, it improves circulation; and, second, it adds to the patient's comfort. Massage in this stage is dangerous because the temptation is to use too much force and thereby damage muscle fibers.

The second stage of treatment begins when pain has completely disappeared and muscle power has begun to return. The same cardinal principle obtains in this stage as in the first. That principle is the protection of the weak muscle from trauma, overstretching and overwork. No harm will ever be done by resting the muscles too much. Dr. R. W. Lovett, one of the greatest authorities on the treatment of infantile paralysis who ever lived, used to say that if he had only one form of treatment at his command, his choice would be absolute rest in bed. Fortunately this is not necessary, but the statement should be the constant controlling thought in the treatment of this second stage. The most important adjuncts to rest in this period are: first, heat to improve circulation; second, trained skillful gentle massage to improve circulation and promote growth (growth is retarded in the affected limb because paralysis prevents its normal use and because the paralyzed muscles do not bring the normal blood supply to the extremity); third, skillfully controlled active motion of the muscles through the patient's own efforts, the so-called muscle training. Muscle training aims to develop muscle fibres which are regaining their innervation without straining or tiring them. It can be carried out successfully only by the specially trained individual. If

Fig. 3-A. Paralytic deformities before treatment.

Fig. 3-B. After operative correction.

such an individual is not available, reliance should be placed wholly on rest and protection obtained from splints and on heat and massage.

Muscle training in the hands of experts can be carried out advantageously, under the ordinary conditions of life. It undoubtedly has a valuable ally in the warm water pool. The underlying value of the warm water pool is the fact that the immersion of the patient's body in warm water does several things. It increases circulation through contact of the skin with the warm water. It reduces resistance to muscle contraction by floating the limb so that gravity is almost inactive. It increases the patient's willingness to carry out exercises, because it is fun just to be in the water. The spirit of the old swimming hold stimulates the imagination and the competitive spirit is aroused. Patients whose exercises are being carried out in a pool look forward to their periods of treatment with pleasure, which is in marked contrast to the boredom of the routine training in the gymnasium. For the individual a large bath tub provides a satisfactory pool. Where large numbers of patients are to be cared for by this method, the expense of the pool is often prohibitive.

The third stage of treatment begins when the improvement of muscle power, under muscle education, ceases. It is purely operative. It aims first to correct deformities which have resulted from inefficient treatment in stages one and two. Second, it aims, through muscle transplantation, to make strong muscles do the work of weak ones, thus restoring muscle balance. Third, it aims, by arthrodesis of joints and changes in bone architecture, to provide stable extremities, which the remaining strong muscles can control sufficiently well to make the extremities useful in the ordinary pursuits of life. The operations invented for these purposes are almost innumerable. The choice of the proper operations for the individual case and their arrangement in a consecutive rational program, which will produce the best ultimate results, are problems which tax the resources of the best trained surgeons. Frequently such a rational program will cover years of consecutive operative procedures, each depending on the success of its predecessors.

In such a paper as this, no attempt can be made to go into details, but certain basic principles can be stated. Operations undertaken too early are much more prone to failure than those undertaken late. Patience and long periods of observation are therefore of the greatest importance. Any type of operation, except the simple correction of deformity, should generally be postponed until growth is well advanced and bone has been substituted for cartilage. If a tendon transplantation which theoretically will help the individual case is undertaken before the bones are solid, growth may produce a reverse deformity that is most difficult to correct. Operations on the bones themselves necessarily damage the growth centers, and if they are attempted too early they lead to gross and intractable deformity, which often develops long after the surgeon has lost sight of the case. It is impossible to set age limits for the various operative procedures, but in general it is safest to employ braces to protect the limb or back until bony growth has approached its fulfillment. The most interesting of the newer developments of the late stage of infantile paralysis is the operative procedure for the lengthening of the damaged leg, which has not kept up with its fellow, in growth. This operation is successful both in the tibia and femur, but it should not be undertaken until the child is eleven or twelve years old. Increases in length of from one to three and one-half inches are feasible.

RESULTS OBTAINED IN THE USE OF TOXOID AS AN IMMUNIZING AGENT AGAINST DIPHTHERIA

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The work of Ramon with anatoxin (toxoid) and the experience in Canada seems to show toxoid superior to toxin-antitoxin as an immunizing agent against diphtheria. Toxoid is prepared by treating diphtheria toxin with formalin until it has lost completely its toxic properties. It still retains, however, its antigenic qualities. It differs particularly from toxin-antitoxin in that the latter remains slightly toxic and also contains small amounts of horse serum. There are at least three possible valid objections to the use of toxin-antitoxin. In the first place, it may sensitize[1] children against horse serum or goat serum. Park, of New York, feels that the importance of this sensitization has been much exaggerated and practically does not exist. Since most of our antitoxins, for example tetanus and diphtheria, are horse serum preparations, goat serum toxin-antitoxin has beein introduced to avoid sensitizing patients against these products. Experience has shown that goat toxin-antoxin is only partially successful in this respect. Secondly, toxin-antitoxin given in doses of one cubic centimeter at weekly intervals for three weeks, produces immunity in only about eighty per cent of children. This leaves approximately one-fifth who, after they have been Schick tested, must receive another treatment series. Since a majority of parents have not yet learned the importance of following the treatments with the Shick test, at the proper interval, it is obvious that a considerable percentage who are thought to be immunized are really susceptible and may develop diphtheria upon exposure. In the third place, the effect of having children who have had toxin-antitoxin develop diphtheria, even though they have never been Schick tested to determine whether or not they actually became immune, is to destroy or undermine confidence in the procedure among all persons who come in contact with the case. Similarly, to discover that one out of five have to have the series repeated produces a bad psychologic reaction and increases tremendously the amount of work necessary.

The results reported from the use of toxoid have been so much more favorable than those achieved through the use of toxin-antitoxin that it was decided to run a series of children in the Child Welfare Clinics, keeping careful records so that the results could be compared with those reported. The following is a tabulation of results obtained from patients receiving two doses of 1 c.c. of toxoid (Ramon). These doses were given at intervals of three weeks and Schick tests were made every successive month until the patient became Schick negative or until six Schick tests were done. There was considerable loss during that period. The total number of cases having Schick and reaction tests was 433; the final number given toxoid was 202.

Only patients who were Schick positive, and were negative to the reaction test, were used. Five and five-tenths per cent of the 433 cases showed positive reaction tests. Patients chosen were between one year and six years of age, with an average age of two years seven months.

RESULTS OBTAINED FROM SCHICK POSITIVE PATIENTS WHO RECEIVED TWO DOSES OF 1 C.C. EACH OF TOXOID (RAMON), GIVEN AT THREE WEEK INTERVALS AND WHO WERE SCHICK TESTED EVERY MONTH THEREAFTER UNTIL A NEGATIVE TEST WAS OBTAINED OR UNTIL SIX SCHICKS WERE DONE

Total No. of Cases	Neg at 6 Mo.	Neg. at 5 Mo.	Neg. at 4 Mo.	Neg. at 3 Mo.	Neg. at 2 Mo.	Neg. at 1 Mo.
202	199	197	197	196	190	157
	98.5 % of total	97.5 % of total	97.5 % of total	97.0 % of total	94.0 % of total	77.7 % of total

Age of patients—one year to five years, inclusive. Two patients failed to return.

At the end of six months 199, or 98.5 per cent, were Schick negative. At five months 197, or 97.5 per cent of the total, were Schick negative. At the fourth month 197, or 97.5 per cent of the total, were Schick negative. At the third month 196, or 97 per

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cent, were negative. At the second month 190, or 94 per cent of total, were negative; and one month after the second injection of toxoid 157, or 77.7 per cent of the total, were Schick negative. This evidence is in accordance with other results from the use of toxoid. The difference in these results from those we have gotten from toxin-antitoxin is unquestionably a significant one.

CONCLUSIONS

1. 433 children were given the Schick test and reaction test. Of these, 24, or 5.5 per cent, showed a positive reaction test.

2. 202 Schick positive patients between the ages of six months and six years receiving two doses, 1 c.c. each, of toxoid (Ramon) given at three week itervals were Schick tested monthly until negative or until six Schicks had been done.

3. At the end of one month 77.7 per cent had become Schick negative and at the end of six months 98.5 per cent of the total had become negative.

4. No severe reactions were noted—the few occurring being mild and not differing materially from those experienced when toxin-antitoxin was used.

5. A preparation free from horse serum has been used, thus producing no sensitization in the patient against horse serum. A much higher per cent of children have been rendered immune with the treatment, thus making further treatment unnecessary in all but 1.5 per cent of the cases. The adoption of toxoid would result in a greater per cent of children being immunized by a single series of treatments, and would have a beneficial psychologic effect, since there would be fewer "treated" children developing diphtheria and fewer cases needing the series repeated.

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FAMOUS MEN IN MEDICAL HISTORY

WILLIAM PEPPER*

WILLIAM A. SODEMAN

The name of Pepper first appeared among the residents of Philadelphia in 1774, amid stormy times for the colonists, when Heinrich Pfeffer, an old Lutheran Strasburger, forsaking Germany for the new world, settled in the city of Friends. Nor was the name long submerged, for George Pepper, a son, early entered business, and, with the sagacity which marks our captains of industry today, amassed a fortune which in Philadelphia was second only to that of Stephen Girard. He contributed generously to science and education. In fact, so keen was his interest that his son, later to be known as William Pepper the elder, entered the field of medicine, graduating in 1832, the year of the Philadelphia cholera epidemic. A period of seasoning spent in Paris, and incidentally in the company of Oliver Wendell Holmes, prepared him for a practice in Philadelphia, where he, like his father, rapidly gained success, eventually occupying the chair of Theory and Practice of Medicine in the University of Pennsylvania. He cast his lot with Sarah Platt, a New Jersey Quaker, consummating a marriage which on August 21, 1843, brought to Philadelphia one of its greatest citizens, William Pepper the younger. Little did they know that future years would carry this son to the occupancy of his father's chair, to surpass his father, to lead the University out of the ill-managed, struggling position it held, and to elevate it to its place among the greatest universities of this country. It is the younger Pepper who concerns us here.

So full, so active, have been the later years of his life that the youth of Wm. Pepper, paled into insignificance, finds little place in his biography. Of himself he says, "I do not think I was at all a precocious child. I remember first going to school when nearly seven years old, ignorant of the very letters of the alphabet. Before this time,

*Read before the Victor C. Vaughan Historical Society, University of Michigan Medical School, March, 1931.

however, I had amused myself much with the elementary operation of arithmetic, especially performed in a mental way. . . . My childhood was a most happy one; blessed with a most kind and loving, but judicious, father, who, even when overwhelmed by the anxious cares of his profession, had always a fond sympathy with our childish pleasures; with a mother whose very presence, and still more tender smile and sweet, soft voice, were the fruits and proofs of most entire and constant unselfishness." Described as a bright, lovable, docile child, he developed into a boy of unusual mental vigor, self-command, and strong physique.

On September 8, 1858, he entered the Department of Arts of the University of Pennsylvania. Such a statement brings up an altogether different picture of a university than the modern mind conceives. Then the campus, on Ninth Street, held two plain buildings, one the college building, the other the Medical School. The University organization consisted of an Arts School, a flourishing Medical School, and a meagerly attended Law School. The freshman class in 1858 numbered thirty-two. Six professors taught the 125 art students. The Medical School, largest both in faculty and students, boasted ten professors and 409 students. The Law School, weakest of the three, consisted of three professors and 75 students. The library, it is said, was "open daily not less than two hours." This, then, was the University which Pepper entered, a school vastly different from the awe-inspiring institutions we have today. Discipline was lax, the prevailing habits of study very poor, and the students so young that most of them were incapable of appreciating the opportunities they daily neglected. The Civil War further depleted the enrollment, till the senior class of 1861 graduated about 25 students, among them Wm. Pepper, the second member of the class. He immediately entered the Medical Department, from which, on March 12, 1864, he received his M.D. degree, so that at the age of twenty we find him armed with a degree ready to enter the practice of medicine.

But it was not meant for young Pepper to start out alone so inadequately prepared. Study in Europe was impossible, but to stay on at the hospital, to profit by the experiences of his teachers, and to continue his studies, were demands he heeded. He became physician to the dispensary, and later was elected house physician. That he filled this position well is evidenced by conveyance to him of "the practice of house and use of the Library." The position of pathologist, lecturer in pathology, and appointments in other in-

William Pepper, 2nd

stitutions followed. He was very active and his physical and mental efforts knew no bounds. A colleague characterizes him for "his cheerfulness, hopeful disposition, his enthusiasm, and his alertness," and especially for "his bounding up and down stairs two and three steps at a time to and from his clinics." In 1870 he was appointed lecturer in Clinical Medicine at $400 per year. This choice brings to note his great love for internal medicine. He had no predilection for surgery, and, since his power of diagnosis seemed inborn, internal medicine naturally fascinated him.

The University at this time was on the verge of its great advance. Pepper, who till this time had passively taken interest in its development, now became an active supporter, little realizing that the fight for the advancement of the University would occupy the greater share of his time almost till death. The removal of the University to West Philadelphia was under discussion.

The hospital was closely associated with the medical school. Pepper eagerly took up the cause of medical education, so that at the age of twenty-seven years, we have him entering upon a career as builder of the University.

He compiled numerous arguments for justification of such a hospital. He calculated that from 1810 to 1870 medical students alone had spent over 20 millions of dollars in Philadelphia, establishing justification for the undertaking in a business way. He compared the hospital facilities of Philadelphia and New York. Philadelphia, with approximately 700,000 people, had 1,199 hospital beds nominally free. Actually only 309 of these were free to those who needed them. New York with 900,000 had 6,325 free beds. The pride of the city was aroused and jealousy toward New York was used to better the cause of the hospital. Pepper drew the political powers of Philadelphia behind him and used them to influence the city council to appropriate five and one-half acres for a hospital site. Nor did he stop with the people or the city government in his appeal, for he even approached the state legislature, which, in turn, promised $100,000. In those days such requests were unusual. Teaching hospitals were an innovation, a novelty which for the first time evoked the interest and support of the state's treasury.

Pepper's ability actually "to talk people out of money" shows itself in the case of Isaiah V. Williamson, who at the time bore the title of wealthiest man in Philadelphia. But the title was gained not in giving money away, but in saving it, so that no one expected his support in the hospital movement. Pepper, however, with an eye on the money, entered Williamson's office in the darkest and narrowest street in Philadelphia, eloquently described the needs and purposes of the new hospital in a twenty minute oration and rewarded the cause with a $50,000 gift, —later doubled. In this way, Pepper ferreted out all possible sources of donation, even resorting to the now well known partial payment plan, and crowned his efforts with success, when, on June 4, 1874, the hospital opened its doors.

The labors of developing a hospital and directing activities for the obtaining of funds seems a task large enough to completely occupy one man's time, but with all this struggle Pepper continued his professional activities. He worked enthusiastically in his practice, researches, and publications.

He was not a specialist but a general practitioner, even though since 1850 a tendency toward specialization had begun in the cities. His practice was extraordinary, not only in its volume, but also in its geographical extent. Patients came to see him from all over America and Europe, making demands upon him, great and at times almost beyond his powers. The high esteem in which he was held as physician is evident in the case of General Sheridan in 1888. Sheridan had become quite ill and Pepper was called in as a consultant. The Pennsylvania Railroad provided him with a special car, which he boarded every night at 11 o'clock, reaching his patient in Washington in four hours and returning to Philadelphia at 8 A. M. for his daily duties. Sheridan died, however, of a mitral stenosis complicated with pulmonary embolism. The size of his practice increased enormously after his appointment as Medical Director of the International Exposition, which was held in Philadelphia. He carried out his work in the Exposition with great success, for which he received the honor of the Order of St. Olaf from the King of Norway and Sweden. His name became known outside of Philadelphia, and with it a large increase of practice. Such were his honors at 33, an age when most physicians are yet unsettled in practice and very few have made a name for themselves. His success as a practitioner depended much upon his power of analysis. He had the capacity to compare, to distinguish, to define, qualities which would, and later did, bring him success in other fields of endeavor.

His services as a practitioner rested on his principles of treatment. His prescriptions were simple and he trusted much to rest and in getting the patient's mind back to normal. Nor did he forget the patient the minute he left the room. He remembered all. When in California, he sent notes to many a patient in small villages about Philadelphia. An unknown country doctor who called him in consultation would be surprised in a few days by a long letter commending his treatment of the case. In most discouraging and doubtful situations he could change the outlook. Sometimes, to be sure, bitterness and disappointment followed when the prognosis was not realized, but he did not mean to deceive, and he did more

good than harm this way, prolonging many lives and averting many hours of agony.

In the teaching of clinical medicine his great abilities are shown. He had no superior in this field, and in all his talks gave the impression of authoritativeness. Students as well as patients were attracted to him from all over America. His lectures were well given. However, due to numerous engagements, they were not always thoroughly prepared, and at times showed weakness, and perhaps lacked force. In all his teaching his Saturday clinics attracted the greatest attention. No matter how difficult the case which was presented appeared, he took it up and never failed, so his biographers say, to make a diagnosis.

As a writer he taught many more than as a lecturer. Never at a loss for the appropriate word, he expressed himself as clearly and forcefully as he spoke. "The Morphological Changes in Malarial Fever" was his first valuable contribution. Many other works, including several textbooks, followed. With Dr. Meigs, he wrote "Diseases of Children." His papers for the journals were numerous. "Local Treatment of Pulmonary Cavities," published in 1874, gained favorable comment from Austin Flint, although now in disrepute along with all types of injection treatment for lung pathology. Another work on tuberculosis is "Climatological Study of Phthisis in Pennsylvania," done with exhaustive research. His interest in pulmonary disease lies in the fact that his father, two brothers, and a sister died of it. He, himself, is said to have had three narrow escapes from such a death.

To carry on the extensive practice he had, to teach the classes he conducted, to contribute the writings he did seems more than enough to fill the days of any man. Indeed, it is more than most physicians do. But in Pepper's life it must make way for two activities considered his greatest achievements, the fostering of the development of the University of Pennsylvania and the promotion of higher medical education. Osler, in 1898, said, "Were I asked to name the most satisfactory single piece of work in Dr. Pepper's life I should say unhesitatingly that which is related to the promotion of higher medical education."

In Pepper's college days the University, except for the medical school, was entirely local. Standards were lax, the preparatory schools setting the admission requirements to the University. The board of regents and faculty comprised two distinct bodies, hostile to each other and seldom agreeing on anything. The trustees regarded the professors as clerks and employees rather than as teachers and guiding spirits of the University.

But through this arrangement, miserable as it was, some saw hope for reform. Pepper, himself, at graduation told a friend that the University would never be great until it had one head. Little did he dream that he was to be the first to fill such a post. Provost Stille tried to introduce many reforms, but without success. He advocated the elective system, already adopted by Harvard. He tried to instil a new spirit in the school, to raise it to the high plane of Yale and Harvard—but his hands were tied. He had no power, was not even a member of the board of trustees, and could not attend their meetings. He was a professor with another name, an executive without power, a situation constituting the most serious defect in the organization of the University. However, he did succeed in moving the University to West Philadelphia, and in his term the students increased 100 per cent, as did the debts. The Dental School and Towne Scientific School also were added. The campus as yet was unimproved and is described as a dreary waste, suggestive more of poverty than of higher education.

The trying problems after years of effort told on Stille's spirit, and on January 30, 1880, he resigned. Phillips Brooks declined the office. After much consultation Pepper was nominated. At first he refused, but reconsidered when the Provost was made presiding officer of committees. This action gave the University of Pennsylvania a new start, a true responsible head for the first time, and an organization which would permit it to advance. On February 22, 1881, Pepper was installed into office. In his address he advocated a new library, urged provisions for the education of women, and announced Joseph Wharton's endowment of the now famous Wharton School. He conferred the LL.D. upon James Garfield, then President-elect of the United States.

Immediately he set to work in his new position. His activities I can but mention. He traded the city of Philadelphia seventeen acres additional land for a few free scholarships; he amended the entrance requirements to the University and reorganized the

faculty into one large unit, subdivided into various groups representing the several schools. Heretofore each faculty had worked out its problems separately.

In 1877 he urged reforms in medical education and lengthened the yearly session to reach from October 1 to April 15. Several medical schools at that time had yearly schedules barely covering 10 weeks. With the lengthened term Pepper said, "The earnest and successful student of medicine must now devote his whole time for three years to acquire the knowledge of his profession." He added a voluntary fourth year, an entering wedge, so to speak, in extending the course to four years. Practical courses were added for graduate students. He also strengthened the law faculty, dental faculty, and added a Department of Veterinary Medicine, an old idea which Rush had expounded when lecturing there 75 years before.

Until this time also the University had neglected the wants of advanced students. Pepper commented on this lack of facilities as follows, "It is clear that one of the most important functions of the University is to provide every possible combination for such students as are desirous of pursuing their investigations far beyond the limits of the ordinary college curriculum." He effected the establishment of such education in the Faculty of Philosophy. He organized the alumni and took active interest in establishing an alumni association and championing college athletics, which for the first time was beginning to attract public attention.

His additions to the University continued. A school of Hygiene was established, land added to the University, a compulsory fourth year added to the medical curriculum, the entrance of women into higher education effected. The Wistar Institute, originated by Isaac Wistar to enrich comparative anatomy, Pepper considered the crowning triumph of his career. The Pepper Laboratory, a memorial to his father, is another of his personal contributions.

In his thirteen years as Provost, Dr. Pepper created thirteen departments and erected twenty buildings. The faculty increased from 90 to 300, and attendance from 800 to over 2,800. He added 40 acres to the campus and 4 million to the endowment funds; $500,000 of the money used came from his own pocket, all earned in practice.

His work at the University is great in whatever light it is considered, by extension and increase in the courses offered, by acquisition of land and erection of buildings, by increase in students and faculty members, by unification of the University and its correlation with the school system of Pennsylvania, and by its elevation to front rank among the great universities of the United States. All these accomplishments were won against greatest of odds, in the greatest of poverty. The financial weakness of the University necessitated a hand-to-mouth policy. Pepper looked to the future, threw burdens on future generations, who, he thought, would be more greatly inspired than his age. He assumed financial obligations as no other educator would. But he accomplished what Stille tried faithfully but hopelessly to do! He transformed Stille's school into a University of national reputation.

Civic affairs, too, entered into his activities. The late '80's found the library facilities of Philadelphia far behind those of other cities. True, many libraries, but most were closed corporations. Pepper, as the head of Philadelphia's greatest educational institution, was deeply concerned in such facilities. Through his influence, $225,000 was donated from his uncle's estate to a library fund. The Free Library of Philadelphia, true to form, was free not only in name, but also in fact, to all inhabitants of the city. Demands upon the library were overwhelming. Branch after branch was added, limited only by funds, until 1898 eleven libraries were in operation, loaning books to a million and a half borrowers in a single year.

The Philadelphia Commercial Museums also drew the patronage of William Pepper. The movement started at the University in 1893, when a museum was established to gather from all parts of the world information on trade, to exhibit samples of all manufactured goods sold in foreign countries, to help the American manufacturer in foreign trade, and to advance the standards of commercial education in the United States. Thus, the influence of William Pepper crept not only out of the state of Pennsylvania, but out of the United States into foreign lands, where interest in American History, doubled by ease of establishing relations with manufacturers, increased the heights of commercial and industrial prosperity.

Pepper's civic interest showed itself in a multitude of services rendered the city of Philadelphia, ranging from changing the attitude of the public toward higher education down to improvement of city water supply and other sanitary measures.

His last great attempt in the educational field, though it failed, is worthy of mention. For several years he exerted influence in Congress to establish a National University, planned as follows: a university to be formed in Washington, D. C., admitting only those holding the bachelor's or higher degrees. The Ph.D. and similar degrees only were to be conferred. The Library of Congress, scientific and art collections of Washington were to be used in teaching. The President of the United States was to be President of the University, which was to gain support, endowment, and appropriations from the federal government. Pepper appeared before Congress and spoke in behalf of his plan, but influences set up by certain of the eastern and northeastern schools which were afraid of being displaced in prominence by so powerful a school as would be created are said to be the cause of its defeat.

The effects of so full a life began to make their mark on Pepper. By March, 1896, the possibility of death faced him in the occurrence of several attacks of angina pectoris, which, however, he kept secret, attending his practice and work as usual. How fully his time was occupied is shown in one incident which occurred while he was giving a theater party. Three times during the performance he excused himself, twice to give formal addresses and once to enter consultation.

Rest became ever more urgent until, broken in health, he vacationed in California, far enough away from home to forget his labors. On his second trip there, on July 28, 1898, an anginal attack came on which could not be stopped, his first attack in four months, the last one having occurred during his lecture upon that disease. The common opinion was that overwork killed him. To quote the Mayor of Philadelphia, "So swiftly did he run that he fell before he reached the goal."

With his death his greatness was voiced everywhere. "Philadelphia's first and foremost citizen," are Tyson's words. "The greatest Philadelphian citizen since Franklin," said many. He had many characteristics which make for great citizens. His unselfishness was something many could not understand. How he could do all he did merely for public good his enemies could not conceive. He treated the world as a friend, and used his foes as well as his friends for his purposes. His capacity to ignore insults and injury helped him toward his greatness.

He understood man and methods. He planned well, counseled well, and wrote well. Few men are so much a success in so many fields of labor. Commerce, business, civic leaders, public welfare workers, as well as medicine and education all claim him as one of their leaders. His career is all the more surprising when considering that the calling of a physician is not the kind to be led toward commerce, business and such varied public interest.

Much of what he accomplished he did for Philadelphia. He thought not of the historic old city, but a New Philadelphia, greater in public works, richer in hospitals, in schools, in libraries, in art, commerce, and so forth. The women of Philadelphia, and of the whole United States, owe him a great debt of gratitude for his interest in education for women. Although at the time he became Provost he backed education for women, he did not feel that the University could take the initiative. But later, women played such a part in his success as an educator that he remarked, "Ten years ago I was skeptical as to the large share to be played by woman in public and official life of a dominant nation; now I grow more and more convinced of her necessity."

To those of us outside of Philadelphia his chief importance lies in his influence upon medical education. As a writer of textbooks and as a lecturer he taught many, influenced many far above the average teacher. He contributed little in the form of new discoveries, it is true, but his efforts in lengthening medical courses, introducing clinical teaching closely linked to theoretical considerations, broadening the medical student's grasp upon the basis of his training, and leading the country in developing the modern medical school—these efforts, to repeat, although not heralded with the enthusiasm shown a radical change or new discovery in medicine, silently built a foundation for medical training in the United States which is of inestimable value and which will outstrip the spectacular as time grinds on.

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner
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POLIOMYLETIS IN MICHIGAN

The outbreak of anterior poliomylitis in Michigan this year reached greater proporsions than any previous outbreak of this disease in the state. This is so, if we may judge by the number of reported cases as compared with the reported cases in previous outbreaks. In 1916, there were 598 reported cases. In 1924, the number was 647. These two years remained the highest until 1931, when the total reports at the end of October were 1,076. It may be, however, that, due to better diagnosing and reporting this year, the number of reported cases is not an accurate measure with which to compare this outbreak with former ones.

If we consider the number of deaths, we still are not sure that we have an accurate measure of comparison. The greatest number of deaths in a previous outbreak was 141 in 1916. The number accounted for up to October 1, 1931, is 77. However, at the present writing, not all of these death reports have been received and tabulated by the Michigan Department of Health. The virulence of the epidemics may differ. Furthermore, the convalescent serum used in the outbreak this year appears to have been instrumental in lowering the number of deaths and cases left with paralysis.

The epidemic of poliomyelitis subsided rapidly. The number of cases reported weekly, beginning July 25 and to the end of October, is as follows:

For the week ending	
July 25	9
Aug. 1	13
Aug. 8	17
Aug. 15	33
Aug. 22	51
Aug. 29	93
Sept. 5	107
Sept. 12	114
Sept. 19	170
Sept. 26	138
Oct. 3	112
Oct. 10	74
Oct. 17	46
Oct. 24	41
Oct. 31	28

The greatest number of cases reported in any one day was 50 on September 15. Cases have been reported from 72 of the 83 counties. The eleven counties from which no cases have been reported are: Alger, Arenac, Baraga, Crawford, Dickinson, Huron, Iosco, Iron, Lake, Ogemaw and Oscoda.

The consultant service, which was provided for in a plan set up by the Michigan Commission on Infantile Paralysis and financed also by the Commission in indigent cases, was discontinued October 20. Since this date, consultant service as well as other care needed for indigent infantile paralysis cases has been provided by the local authorities in the same way as in any other communicable disease.

The Commission (through the Michigan Department of Health) continued to provide convalescent serum on the basis of the same clinical criteria as heretofore.

The Commission endeavored to be of service in combating the outbreak in the following ways:

1. Dissemination of general information and advice to the public and more especially to the schools (largely through the press).

2. Education of physicians as to the disease (bulletins, circular letters, lectures, clinics).

3. Expert consultant service making it possible to confirm early diagnosis at bedside by spinal puncture and microscope, thus enabling a good percentage of cases to receive serum treatment in the preparalytic stage. (Division of state into districts with regional consultant for each.)

4. Serum:

   a. Canvassing of state for persons who, having had the disease previously, were willing to provide blood for serum (press, Michigan Crippled Children's Commission, physicians, nurses, health officers and others).

   b. Organization of bleeding clinics and collection of blood (health workers, physicians and nurses).

   c. Processing of blood into serum ready for distribution (Michigan Department of Health Laboratory).

d. Distribution of serum to local consultants (Michigan Department of Health).

That you may be reminded again of those organizations coöperating in the Commission, the list is given here:

Michigan Department of Health
State Medical Society
University of Michigan
Children's Fund of Michigan
W. K. Kellogg Foundation
Crippled Children's Commission
Detroit Department of Health
Wayne County Medical Society
Orthopedic Board
Detroit College of Medicine and Surgery

It will be some time before all data regarding the campaign and that pertaining to the epidemic can be collected. It will be longer before these data can be analyzed and published. But already we have much information and many reports indicating the effectiveness of the work. We are convinced that quite a few lives have been saved and much crippling prevented.

C. D. Barrett, M.D., C.P.H., *Director,*
Bureau of Epidemiology.

FROM THE DEPARTMENT OF LABOR

We desire to call the attention of all medical men to the following section of the labor laws of the State of Michigan, same being Section 1, Act 119, Public Acts of 1911 (Section 8613, C. L. 1929):

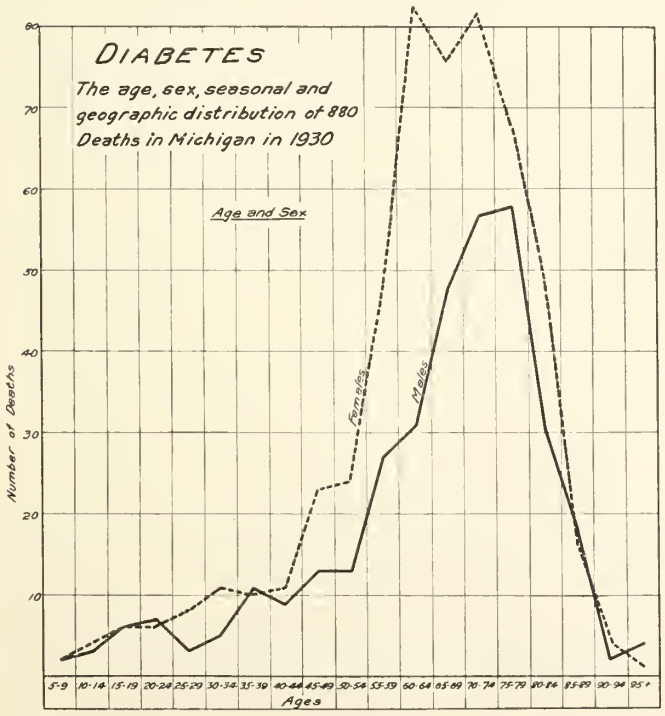
"Every physician attending or called upon to treat a patient whom he believes to be suffering from poisoning from lead, phosphorus, arsenic or mercury, or their compounds, or from anthrax, or from compressed air illness, contracted as a result of the nature of the patient's employment, shall send to the state board of health, who shall transmit to the commissioner of labor, a notice stating the name, post-office address and place of employment of the patient, the length of time of such employment, and the disease from which, in the opinion of the physician, the patient is suffering."

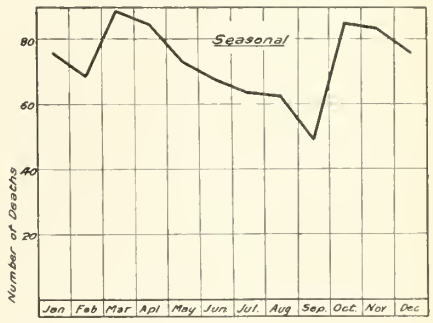
ANNOUNCEMENT

Beginning January 1, 1932, the Michigan Department of Health will distribute diphtheria toxoid for active immunization against diphtheria. The manufacture and distribution of toxin-antitoxin will be discontinued.

This change will be made because toxoid is a more stable biologic product than toxin-antitoxin, and because it assures a higher percentage of immune children in a susceptible group.

A reprint of the Department's circular for





physicians on diphtheria toxoid and its administration follows:

"Diphtheria Toxoid is used for active immunization against diphtheria. It is an especially useful preparation for young children.

"It is a non-toxic product, prepared and tested in our laboratories in accordance with regulations of the United States Public Health Service, by treatment of diphtheria toxin with formaldehyde to a point of detoxification so complete that 5 maximum human doses shall cause no local or general reaction when injected into guinea pigs weighing 300 grams.

"As distributed from these laboratories, Diphtheria Toxoid is a clear, straw-colored liquid and should not be used if cloudy.

"Diphtheria Toxoid given coincident with Diphtheria Antitoxin or within four weeks after Diphtheria Antitoxin has been administered is neutralized. Wait four to six weeks after immunizing dose of antitoxin before beginning treatment with toxoid.

"All children over the age of six months and under six years may receive Diphtheria Toxoid treatment.

DOSAGE

"Three doses of 1.0 c.c. are given three weeks apart. The dose is the same for children as for adults. For infants under one year of age, one-half of each dose should be given. Diphtheria Toxoid should be given intramuscularly. Immunity develops within a period varying from six to eight weeks after the last injection. Older children and adults, because they are less readily immunized, may receive four doses. The development of an active immunity is determined by the Schick test at the end of three months.

REACTIONS

"Experience so far has shown that reactions seldom follow the injection of toxoid in children under six years of age and are rare in those under ten years. In older children and adults, local and even general reactions may occur. Such reactions consist of induration, with an area of redness extending for several inches around the site of injection together with malaise, headache and fever. These symptoms disappear in two or three days.

TESTING FOR REACTORS

"It is recommended that all persons over ten years of age be tested with the reaction test, which consists of Diphtheria Toxoid diluted 1 to 20, and is supplied with each package of toxoid.

"Inject 0.1 c.c. of this diluted material intracutaneously into the forearm. If within three days the area of redness around the point of injection is not larger than one-half inch in diameter (12 mm.) no severe reaction is to be expected. If the reaction is larger than this, Diphtheria Toxoid should be given in one-fourth of the regular dose."

RÔLE OF COMMUNITY CLINICS IN MENTAL HYGIENE

According to George S. Stevenson, New York, the mental hygienist in developing his preventive and early treatment program is confronted with a more complex situation than the physical hygienist in that his subject, man-as-a-whole as contrasted to his parts, is a freely moving agent which is constantly changing its relationships and inducing responses from people on a variety of grounds. Prevention in mental hygiene work hence has been sought not only in medicine but also in criminology, social service, pedagogy and religion, and a successful community effort must coördinate these varied approaches. Mental hygiene consequently depends on the willingness and capacity for coöperation of a number of co-equal groups, no one of which can assume too much authority. This entails an extensive improvement in professional education so that the teacher will teach better, the social worker and public health nurse will do their jobs better, the judge will plan better for his cases, the minister will guide better, and the physician will see his problems with their broader implications. This last means a new shading, not an added subject to medical education. The mental health activities of a community cannot get ahead of these advances in professional training. The clinic can provide service to the few cases whose mental hygiene needs exceed the capacities of other agencies and pending the development of these capacities. Beyond clinical service, it carries a responsibility for community education and organization. The mental hygiene of a community is a compound whole community job in which the clinic provides leadership and a limited specialized service.—*Journal A. M. A.*

CAUSES OF FAILURE IN TREATMENT OF VARICOSE VEINS

Géza de Takáts, Chicago, states that today it is no longer necessary to fight for the principle of injection treatment, but rather to emphasize the possible errors and mistakes that are frequently made in a type of procedure which is so easily accessible to both physician and patient. There is hardly anything more instructive than to go over the possible mistakes in diagnosis, the indications and the errors in selecting the proper time and proper type of treatment and in choosing the best solution for the individual case. By avoiding errors in the technic of injections, together with the prevention, early recognition and adequate treatment of sloughs, and by adhering to a systematic follow-up and treatment of recurrences, a physician will doubtless improve his results and render a valuable and economically important service to the community. Under mistakes in diagnosis, in indications, in the type of treatment, in the technic of injections, in the selection of the proper solution to be injected, in the prevention and treatment of untoward reactions, and in the after-treatment and follow-up of patients, the author enumerates a few of the most common mistakes in the treatment of varicose veins.—*Journal A. M. A.*

REMOVABLE INTERNAL FIXATION IN FRACTURES

According to W. B. Carrell and P. M. Girard, Dallas, Texas, removable internal fixation has merit in selected cases of fracture. They suggest some modifications to the method which make it applicable to a wider range of conditions. In several varieties of fractures, fixation is adequate, and, by hinging the plaster at the joint, motion may be instituted immediately after operation. With external fixation in plaster, the pin has a distinct advantage in controlling completely the tendency for angulation due to the contraction of muscles. This is observed regularly in the middle and upper third of the femur. The method is so easily and quickly applied that it changes a rather major operation to one of less exposure, less trauma and, therefore, within the sphere of a greater number of surgeons. Three different devices are described that are used in accordance with the type of fracture. The plan of removable fixation is not proposed to meet all requirements in an operation in fractures, but in selected cases the authors have found it adequate, easily applied and worth a place in the armamentarium of the fracture surgeon.—*Journal A. M. A.*

THE JOURNAL

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DECEMBER, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

DR. CHARLES GODWIN JENNINGS HONORED

The honorary degree of Master of Arts was conferred upon Dr. Jennings at the eighty-second annual convocation of the University of Michigan Medical School. The inauguration of a movement to recognize the meritorious work of some prominent member of the medical profession in this State took place at the annual fall convocation of 1930 when the honorary degree of Master of Arts was conferred upon Dr. C. B. Burr. It is an honor which is appreciated by the person fortunate enough to have it conferred upon him, more than refined gold. And we may also add, when the selection is so carefully made as has been in the two instances thus far, the granting of the honorary degree is also a credit to the University.

The selection of Dr. Jennings is a happy one. The doctor has had a long and distinguished career as internist. Not only in the active practice of his profession has he served his generation well, but his career has been almost equally noteworthy as a medical educator. Dr. Jennings has never ceased to grow mentally. He has been for thirty-five years a teacher of medicine in the Detroit College of Medicine. Many generations of students, as medical classes go, have gone out under his instruction and inspiration and have acquitted themselves with credit. Most of the great clinicians have been teachers. Contact with younger minds stimulates the medical teacher to his best. Teaching makes for clearness in thinking.

It is our privilege to publish in this number of the Journal the address delivered by Dr. Jennings on the occasion of the annual fall convocation before the president, the faculty and the students of the medical school and also members of the board of regents and guests. Dr. Jennings began the study of medicine fifty-six years ago. This long period makes him a participator in as well as a spectator of the notable developments that have been made in medicine during the most fruitful period of its history. *Quorum magna pars fuit.*

In his address he reviews briefly the medical discoveries during the past half century, emphasizing the importance of almost constant post-graduate study for him who would keep abreast with the advancement of medical and surgical knowledge. He contrasts the position and the standing in the community of the physician of the fourth quarter of the nineteenth century with that of the physician of today. Reference is made to the criticism of medical service of today, particularly by the lay press, and the problems that will confront the young graduate on the threshold of his career. The advancement in medical science during the past half century has necessitated an increasing cost of medical care. Some solution of this problem must be found. Doctors' fees amount to less than one-third of the total cost of medical service. The problem, then, consists in effecting economies in the remaining two-thirds. The means sug-

gested by Dr. Jennings, namely philanthropy, health insurance, state aid, are worthy of consideration and we would add a fourth, unemployment insurance.

Dr. Jennings defines what he considers the field of the specialist and that of the general practitioner. The general practitioner of today should be the "master specialist" of them all and should be as thoroughly trained as the best members of any other specialty. But even today there is no adequate provision for such training. He should be not only the confidential adviser of the family but he should be a master in the art of diagnosis, particularly of disease in its incipiency. His role should partake in part at least of practitioner of preventive medicine.

The solution of medical problems, whether scientific, social or economic, should be accomplished by the medical profession and not by philanthropists, politicians or the socially minded outside the profession. The address was timely, since those entering upon medical practice will have a great deal to do to bring about the adjustment of scientific medicine to social life.

DR. J. D. BRUCE, VICE PRESIDENT OF THE UNIVERSITY OF MICHIGAN

Dr. J. D. Bruce has been appointed by the Board of Regents of the University of Michigan to the position of Vice President in charge of University Relations. The University has always maintained a high standard of scholarship in its extramural as well as in its intramural courses. It has not permitted its work to be cheapened by correspondence courses of doubtful value merging towards secondary school standards. It has sought to meet the demands of adult education in its University Extension as well as courses in post-graduate work given both within and outside the University. Never in its history has the University served the residents of the State more efficiently than at present. The student's graduation does not terminate his connection with his alma mater, unless he so wills it. An opportunity is given the graduate in medicine, law, education or engineering to continue his education as intensively as he may wish. This likewise applies to graduates of any other university who may be residents of Michigan. It is to meet these requirements more adequately that the new position has been created.

The choice of Dr. Bruce is fortunate. He has had a long experience in this state, first as country practitioner, after graduation in 1896 from the Detroit College of Medicine and Surgery, then as assistant in medicine to Dr. George Dock of the University Med-

Dr. J. D. Bruce, Vice President of the University of Michigan

ical School, 1904-05. He located later in Saginaw, where from internal medicine his practice gradually became surgical. In 1925 Dr. Bruce was appointed director of the department of internal medicine of the University, a position he held with a high degree of satisfaction to all concerned. Three years ago he was made Director of the Department of Post-Graduate Medicine, a position which brought him into intimate contact with the medical profession of the State. He has been councillor of the Michigan State Medical Society since 1923, first for the 8th district and since 1925, the time of taking up his residence in Ann Arbor, for district 14.

From personal experience extending over half a life-time Dr. Bruce has become acquainted with the life and educational requirements of individual doctors. He knows the country doctor as well as his city confrere. And in his capacity of Director of the Department of Post-Graduate Medicine he is equally acquainted with the academician. He has proved himself an educator of ability and vision.

THE USES OF ADVERSITY

The second year of the so-called depression is drawing to a close; we wish we might say that the depression is also coming to an end. The situation in which the world has been placed illustrates the old adage, one touch of nature makes the whole world kin. Never has the interdependence of the different elements of human society been more keenly demonstrated. The best minds in every walk of life have been occupied with attempts at a solution of our economic and social problems and none has given the matter more serious attention than has the profession of medicine. Never has there been a time when patience, steadiness and confidence were more urgent. In spite of financial losses, the greatest things in life, the priceless things that money cannot buy, are with us still—good health, the loyalty of one's family, the allegiance of one's friends. We have known members of our profession who have lost heavily, yet they have preserved a cheerful manner. They have turned their clouds about to show their lining. Reverses, after all, serve only to show one's true character. The resourceful man refuses to be turned down. We are reminded of the exiled duke in "As You Like It":

> "As the icy fang
> And churlish chiding of the winter wind,
> Which when it bites and blows upon my body,
> Even till I shrink with cold, I smile and say
> 'This is no flattery', these are counsellors,
> That feelingly persuade me what I am,
> Sweet are the uses of adversity,
> Which like the toad, ugly and venomous,
> Wears yet a precious jewel in his head;
> And this our life exempt from public haunt,
> Finds tongues in trees, books in running brooks,
> Sermons in stones, and good in everything.
> I would not change it."

The experience of the year just closed will, in the minds of many, effect a change in the conception of human values. This of itself will be a good thing. Whether prosperity is just around the corner we do not know. According to an old stoic proverb, men are tormented by the opinions they have of things rather than by the things themselves. One's comfort and ease of mind will be in proportion to his philosophic outlook on life.

The President and officers of the Michigan State Medical Society join in wishing the readers the brightest and happiest New Year they have ever seen.

FARADAY

August 29, 1931, was the one hundredth anniversary of the discovery of electromagnetic induction by Michael Faraday. This was one of the greatest discoveries of the nineteenth century and its effect upon the human race cannot even yet be estimated. Faraday, who was one of the greatest of experimental scientists, was in his youth apprenticed to Sir Humphry Davy, also a noted scientist with many revolutionary discoveries to his credit. On being asked what he considered his greatest discovery, Sir Humphry immediately replied, "Faraday." Faraday was the son of a blacksmith. He was an extreme individualist in his work. He never had a research assistant and he was the founder of no school. In this, however, he was not unlike a number of other British scientists who might be mentioned. Charles Darwin, Herbert Spencer, Sir William Crookes, Thomas Henry Huxley did their work independently. This seems to be a characteristic of British genius.

Faraday belonged to a small restricted religious sect known as Sandemanians. This connection greatly curtailed his social life for it seems that a man could not be both Sandemanian and social. Thus we see Faraday ignored social life to a very great degree and spent his energy in research.

One hundred years ago, when at the height of his powers and reputation, Faraday dropped all commercial consulting work. He could have earned $25,000 a year in fees, but this he turned down for his work, and remained at the Royal Institution on a salary of $500 a year, which, being supplemented by lecturing and fees from non-commercial organizations, made his income a little over $2,500, the major portion of which was given to charity.

A member of the Royal Society, he refused to attend the Society meetings because he disapproved of the influence in the Society of persons of merely social eminence. He considered the organization should be restricted to scientists only. Faraday found it impossible to get on with people. Though he succeeded pretty well in controlling his temper, he could not conceal his impatience with the scientific ineptitude of many with whom he came in contact.

Of course it was impossible one hundred

years ago to have any idea of the potentialities which the dynamo has since opened up. There are few departments of medicine, even, which have not been affected by Faraday's discovery. The electric current has been utilized for the illumination of the body. Without Faraday the discovery of the X-rays and electrocardiograph, both based on induced currents, would have been impossible.

PROGRESS

We are living in a progressive age. This raises the question as to what progress really means. Did the people of every age of human history deem their times progressive? Are we advancing at a uniform pace or in a series of waves that advance and recede and then advance a little farther? Perhaps never before in the history of the race was it more necessary than now for thoughtful minds to indulge in reflection on this subject. A number of books have appeared within recent years; in this country a composite work entitled *Whither Mankind*, and a sequel, *Towards Civilization*, in which the answer is implied; both are under the editorship of the American historian, Charles Beard. Another, published in England, entitled *The Idea of Progress* by Bury, is a more philosophical book. Bury begins his study by going back to the ancients, particularly to the Greeks. The Greeks even of the Golden Age had no conception of progress as it obtains today among Europeans and Americans. They held to the theory of world cycles whereby each cycle repeated in the minutest detail the immediately preceding cycle. The *n*th cycle would be numerically different from the first but in other respects identical. The Greeks had a term *moira* which designated the prevailing state of mind or outlook. It meant a *fixed order* in the universe. This idea was passed on to the Romans so that it may be accepted as expressing the state of mind of the ancients. While both Greeks and Romans achieved greatness, those other nations that looked upon them with authoritative reverence did not progress, which accounts for the thousand years and more of Cimmerian darkness following the decline of Rome.

* * *

During the middle ages the prevailing ideas were not in keeping with the modern ideas of progress, for the medieval thinker, or rather believer, considered that human history would be complete if the world came to an end during his lifetime. The same may be said of many simple minded Christians of today. The gradual betterment of human society did not concern them so much as a life to come—individual immortality.

"All medieval thought," according to Coulton, the learned scholar of the middle ages, "is characterized nominally at least by the conviction that each man has a soul to save and that therefore salvation is the main end of every human being, not a distant ideal but the most practical duty. The world fabric might crash at any moment; what was the use of beginning a long chain of facts and inferences? The painful lack of historical sense and scientific observation or experiment during this long period was partly due to the predominating otherworldly attitude of mind among many of the greatest thinkers."

The medieval doctrine of original sin precluded any gradual process of development of the human race. Roger Bacon, whose name has been associated with the experimental method, has been said to have originated the idea of progress. The weight of evidence, however, is against this assumption, since Bacon was influenced to a great degree by his times. One writer (Bury) claims that medieval pessimism as to man's mundane condition was darker and sterner than that of the Greeks. The middle ages were characterized by great mental activity, but the result was little or nothing of permanent value. Progress was impossible. According to Taine, men went through the motions of marching, but they were only marking time. Carlyle spoke of the medieval philosophers as "spinning dervishes gyrating with amazing swiftness but ending where they began." Strange as it may seem, the shortest chapter and most barren in medical history is that dealing with the thousand year period following the death of Galen (200 A. D.).

* * *

It took the European countries about three centuries to evolve from the mental attitude of the middle ages to that of the modern world. This is practically the pe-

riod known as the Renaissance, which may be called the preparation period. During this time we have self confidence restored to human reason as well as a growth of the idea that human life on earth possessed a value independent of a life beyond the grave, all due in a large measure to a return to the thinkers of ancient Greece and Rome. In other words, men attempted to enter into the spirit of the Greeks without slavishly copying them. Greek philosophy and Greek medicine constituted new points of departure. This is evident in our own domain of medicine. We have the anatomical researches of Vesalius which undermined the prestige of Hippocrates and Galen, and later the work of Harvey, which opened the way for the modernizing of medicine. The same may be said of the minor post-Vesalian anatomists. Men of science were at this time in the dawning twilight. It was an age of skepticism which produced such men as Montaigne and others who might be mentioned. Emulating the example of the ancient Greeks is a vastly different thing from following them slavishly and bowing to them as authorities in the realm of thought.

The idea of progress implies that civilization has moved, is moving and will move in a desirable direction. According to Bury, progress of humanity belongs to the same class of ideas as personal immortality; it is true or false, and, like personal immortality, it cannot be proved either true or false. Belief in it is an act of faith.

* * *

Francis Bacon, contemporary of Shakespeare, taught that the end of all knowledge was utility. In other words the purpose of knowledge was to increase man's happiness and to alleviate his sufferings. "The end of the sciences," said he, "is the endowment of human life with new inventions and riches." Francis Bacon, however, believed that the world, like man, had its youth, its maturity and old age, a belief that is inconsistent with progress.

The idea of progress, originating as it did during the seventeenth century, developed with the growth of science. Without science in its broadest sense it is difficult to conceive of progress. Before the seventeenth century, men had philosophy and literature, science of a kind, and commerce, but the progressive betterment of human society did not enter their minds. Jerome Cardan, himself an early modern physician, declared that three scientific contributions to mankind—the mariner's compass, gunpowder and the printing press—were greater than all the ancients had to offer. The mariner's compass made safe to navigation the uncharted seas and thereby tended to make the world a single community. Gunpowder, even though it has facilitated war on a scale hitherto unknown, has certainly had its effect upon nations. The printing press has been a most powerful agent in the influencing of human thought. Science has been advancing almost without interruption for the past three centuries; sometimes its pace has been very slow, so that there have been periods that have been barren of results; at other times, as at present, it has proceeded at a very much quickened rate, but it has been always forward. According to Bertrand Russell, one hundred and fifty years of science have proved more explosive than five thousand years of pre-scientific culture. It would be impossible to enumerate the contributions of science to civilization. A hundred years ago Faraday made his great discovery of electro-magnetic induction which gave us the dynamo. He was in a sense the father of electrical science. He passed off the scene with hardly a realization of what the fruit of his great discovery might some day be. One recalls the story of his exhibition to Gladstone of a small piece of electrical apparatus. The great British minister of finance asked him of what use it was. "Some day you will be able to tax it," was Faraday's reply. Scientific discoveries have certainly carried their burden of taxation. The faster the evolution of science the greater do we progress. When science halts, progress marks time. Progress then is conceived as material advancement. The humblest citizen today has conveniences and mechanical servants that the most affluent were denied a half a century ago. And yet man is not satisfied. This suggests the question: Is it possible for him to be satisfied with material things?

* * *

The expression that necessity is the mother of invention is somewhat trite but

nevertheless true. "Progress," says Bury, "is not an accident but a necessity." Today we are confronted by a world-wide depression in which millions of people are in the ranks of the unemployed. They are real sufferers and cannot be considered in a state of happiness in spite of the fact their lot is cast at a time when science is at its zenith. Every age is confronted with problems and it is one of the functions of science to attempt to solve them, but perhaps religion and philosophy might lead.

An important factor to consider is the urbanization of the western world. This applies to both Europe and America. Time was in the memory of us who are past middle age when the cities were recruited from the country. The professions forty years ago drew their members largely from the farm. Even today a large number of doctors sixty years and over were reared in the country. The recruiting of our profession from the farm has almost entirely ceased for reasons that are well known. The country was a reservoir of vital human material. There is a marked tendency for the human stock to become exhausted by the artificial way of life and the social activity of the city. Modern urbane man has ceased to have any contact with the soil. Even the agriculturist has become affected with the feverish activity of the city so that the whole population becomes in a state of nervous tension. This involves a biological change that must sooner or later affect the character of the race itself.

Whether man will be able to adapt himself to the present condition which is so radically different from the past cannot be foretold with any degree of certainty; that is, whether the new urban industrial civilization will become exhausted or whether it will reach as one writer* puts it, "a new stage of social equilibrium in which the vital forces of society are scientifically safeguarded and preserved from the deteriorating influences of the new conditions." We don't know. With scarcely three centuries to its credit, or discredit, depending on one's point of view, one cannot predict whether progress will be continuous or not. It is a matter which, like personal immortality, as Bury maintains, must be rejected or accepted as an act of faith.

*Progress and Religion. Christopher Dawson.

REMINISCENCE

The *Detroit Free Press* is wont to run in its editorial department selected news items of the particular date fifty years ago. On November 8, 1881, appeared the following news item, "The Michigan College of Medicine has rented the premises at 225 Antoine St. and will utilize it as a school for the training of nurses." This was the first nurses' training school in the state, we are told. Two years later the nurses' training school of Harper Hospital was founded and the two eventually became merged. The number of nurses in training was at first very small, not more than five or six.

Early in November of this year (1931) the death of R. H. Fyfe, shoe merchant of Detroit was announced. Mr. Fyfe was much interested in the training of nurses and contributed substantially to it during this early period. One of the successful practitioners of the state happened to visit Detroit and looking at the flag at half mast over the Fyfe Building remarked that were it not for R. H. Fyfe he would not have been able to pursue the study of medicine. Mr. Fyfe was accustomed to inquire about the finances of needy students and was liberal in employing them as clerks in his store during their off hours.

THE DOCTORS PROTEST

(The Manchester Guardian Weekly)

The teaching profession, the navy, and the police have all found forcible means of expressing how they feel about economy cuts. Now it is the doctors' turn. The panel doctors seem to be in pretty general rebellion against the Insurance Act Committee of the B.M.A. for accepting a cut of 1s. in the capitation fee. A movement is on foot to set up a new organization to look after the interests of the insurance doctors. The original fee was at the rate of 11s. for every patient on a doctor's panel. In 1922 it was reduced to 9s. 6d., in 1924 to 9s. However unwelcome these former cuts may have been, the falling cost of living tended to reduce their grievousness. The present change cuts down the fee to a very low figure at a time when the general cost of living is rising and when the burden of taxation has almost reached the breaking point.

TO AVOID MALPRACTICE SUITS

1. Keep full records of every case, covering both hospital and office care and including telephone consultation.
2. Do not spare X-rays.
3. Avoid, as far as possible, carrying on your practice by telephone. Telephone diagnoses and treatment can lead to serious mistakes and misunderstanding.
4. Fill out death certificates accurately and completely. These may be used as evidence with serious consequences.
5. Do not have an autopsy performed without

a written permission signed by the nearest relative.

6. Avoid careless and ill-founded opinions, particularly in regard to the results obtained by other physicians.

7. Defer pushing collections on a dissatisfied patient who may bring suit rather than pay his bill. He has only two years from the date of the last treatment in which to make a claim, while your bill is not outlawed for six years.

8. Make friends with your patients by your honesty and fairness towards them, for the every-day patients make up your jury and their friendliness to you means their friendliness to the profession.

9. Carry adequate protective insurance.

—*The Bulletin of the Hennepin County Medical Society.*

SANTA CLAUS

Weel, Hallowe'en time is o'er an' Thanksgi'en is past. Noo we're waitin' for th' Christmas season tae come wi' a' its blithesome array an' happy ado.

A'm a'ways gled tae get past oor halloween. Ye ken there's a big swamp atween ma office an' ma hoos an' it's no verra nice traivellin' through there nichts, especially at halloween when a' th' firebugs an' frogs are tryin' tae catch ain inither, an' howlets come oot an' ghaists a'maist grab ye by th' airm.

Oor thanks gaed oot th' year for sae mony guid things that a' th' Doctors hae. We hae a' th' regular things, such as health an' good roads an' taxes an' bills an' rent an' a' thae things an' besides, this year, we hae mair apples an' cider an' mair pumpkin pies, than for mony a year. We are no minded tae gi' oor thanks on anly th' ain day.

Noo we're comin' tae Martinmas time. Th' birthday o' th' graundest man wha wis ever gi'en tae this auld world. We mak a great day o' this, wi' veesits tae oor freens an' dinners tae oor relations an' presents tae th' bairns, an'—mon!—we hae sic a guide time, we lang tae hae th' day come. Ah always hae a rale auld man tae come tae seen me. He's a fine auld chap. A' th' bairns love him, aye! sae does granny. He gies me a' ma neckties. He's a'ways th' same happy, rollickin', sympathizin' auld gentleman, an' every body loves him,—aye!—Every body loves Santa Claus.

Weelum.

MAKE THIS A DAY

Make this a day. There is no gain
In brooding over days to come;
The message of today is plain,
The future lips are ever dumb.
The work of yesterday is gone—
For good or ill, let come what may;
But now we face another dawn.
Make this a day.

Though yesterday we failed to see
The urging hand and earnest face
That men call Opportunity;
We failed to know the time or place
For some great deed, what need to fret?
The dawn comes up a silver gray,
And golden moments must be met.
Make this a day.

—Kalens.

POOR WILLIE!

"Little Willie, from the mirror,
Licked the mercury all off;
Thinking in his childish error
It would cure the whooping cough,
At the funeral, Willie's uncle
Sadly said to Mrs. Brown,
"Twas a chilly day for Willie
When the mercury went down.'"

MEDICAL ECONOMICS

MEDICAL CARE FOR VETERANS IN LOCAL HOSPITALS

Interview by Dr. Angus McLean, Detroit

Saving hundreds of millions of dollars of American taxpayers' money and insuring that every local community is materially benefited by the provisions of the new Federal Act rendering medical and hospital services to veterans of the World War, is the plan of the American Medical Association, according to Dr. Angus McLean, of Detroit, a member of the Legislative Coöperative Committee of the American Medical Association working with the American Legion. Dr. McLean, together with Dr. Louis J. Hirschman, outlined the new law and the American Medical Association plan for proper administration of the law at a meeting of the Cadillac Post of the American Legion in Detroit on October 19th.

"The last Federal Congress inaugurated the policy of rendering medical and hospital benefits to veterans of the World War with non-service connected disabilities," stated Dr. McLean. "This means that veterans with medical troubles which are connected or not connected with service—happening 'Over There' in 1918 or 'over here' in 1931—are entitled to free medical treatment by and under government supervision. This means that the federal government has the privilege of providing hospital beds to take care of veterans, and this, according to the Veterans Bureau itself, means 129,859 beds to meet the needs of veterans of all wars. The cost of construction of government hospitals has been $3,500 per bed. At present there are fifty-three veterans' hospitals with a capacity of 25,940 beds. The cost of constructing the 103,939 additional beds would be, therefore, $363,786,500. The government would undoubtedly have to float a bond issue to raise this staggering sum, and the interest charges alone at 3 per cent would amount to $10,913,595 per annum.

"After the hospitals are constructed," continued Dr. McLean, "then we must think of the cost of equipment, which is a very large item, the exact figures being unobtainable. But expensive equipment, such as X-ray apparatus, would quickly run into a hundred million dollars, we feel sure.

"Next comes the cost of maintenance, which is $4.42 per day or $1,613.30 per annum per bed. This represents a charge of $209,501,524 to be paid by the taxpayers each and every twelve months.

"Then we must think of the cost of the professional staff to man these hospitals—the physicians, surgeons, nurses, orderlies and administrative staff. The Veterans Bureau figures this at $151.56 per bed per annum. In round numbers this means a total of $19,681,430 will be spent on the staff in government hospitals every 365 days.

"But we are not finished yet. If the veteran is examined and ordered to a hospital, there is his transportation to be taken into consideration. The Veterans Bureau tells us the average cost of transportation to and from a hospital is $30.58 per veteran admitted. This would reach the figure of $4,545,000 based on only 129,859 admissions. The sum total of all these costs represents the almost inconceivable figure of $700,000,000.

"The Federal Government has decided by law that veterans of the World War with non-service connected disabilities shall receive these medical benefits, although this policy was inaugurated over the opposition of the American Medical Association, which felt that the veteran with a disability obtained in service should be given every care and the maximum of consideration, but that veterans uninjured in service should not expect the government to pay

for disabilities and illnesses incurred today—some thirteen years after the war. But now that it has been legislated by Congress and is on our Statutes, it is our duty as citizens to coöperate by doing all that we can to keep down the expenditure of the taxpayers' money.

"The problem now at hand is to see that a plan is formulated which will entail the greatest saving in this huge governmental expense without in any way diminishing the benefits to the individual veteran. In line with this, the American Medical Association has suggested a plan of disability insurance benefits with the following provisions:

"'First, the creation of a Bureau of Disability Insurance in the Veterans Bureau as now constituted.

"'Second, the issuance of a disability insurance policy to each veteran, with disability benefit clauses as follows:

"'(a) The payment of a weekly cash benefit during a period of total disability, and

"'(b) The payment of liberal hospital benefit sufficient to cover the hospital expenses of a veteran during a period of hospitalization for any disability. Such benefits to be paid to a veteran on satisfactory proof of total disability, and

"'Third, such other provisions as are necessary for the proper administration of the act.'

"The plan in actual practice would work out as follows: the disabled veteran would apply to the Bureau in his own city and be referred to a local physician for a medical examination. These examinations would take place in the private offices of individual practitioners, who would be paid for the service. Should the examiner find evidence of disability, the veteran would receive a weekly cash benefit for medical and hospital care. The veteran could either stay at home (if his illness permitted) under the care of his family practitioner, or go to a hospital of his choice, and in surgical cases choose the surgeon he desired. Under the A. M. A. plan the veteran would be the greatest beneficiary; he could employ his own physician and choose his own hospital and have his medical care in his own city, not fifty or one hundred miles away from his family; he would receive personalized attention from his own physician in whom he has always placed the greatest confidence; if he contracted a sudden illness he could be given emergency service without waste of time in transportation—and some emergencies cannot await transportation without serious consequence; during his incapacity his weekly benefits would be sufficient to pay for his medical services, with something left over. The veteran's family would benefit because any remaining portion of his weekly benefits would go towards its maintenance."

It is stated that there are 470 veterans in Michigan who have had physical examinations and have been recommended for hospitalization but who cannot be accommodated owing to lack of available beds in government hospitals. A sound argument, says Dr. McLean, for employment by the government of existing hospitals.

"The local hospital would benefit because it would be filled, and I understand there are some 319,000 empty beds in hospitals right at this very moment. The local physician would benefit by this plan. Finally, the government would greatly benefit by the A. M. A. proposition because it would be saved the initial outlay of over $363,000,000 for hospitals, which, statisticians show, would be frozen assets in less than twenty years; again, the plan can be put into immediate operation, without waiting a year or two for the erection of hospitals; moreover the government would be saved over $19,000,000 for professional staffs, and over $209,000,000 for maintenance charges, not to speak of the enormous cost of transportation and equipment which would be eliminated."

Dr. McLean and Dr. Hirschman were supported by the Legionnaires, who agreed to present this plan to their local Congressmen. Outline of the A. M. A. plan has been presented to American Legion posts in Wayne, Macomb and St. Clair counties.

—From an Interview in the *Wayne County Medical Bulletin*, Nov. 3, 1931.

DR. ARISTIDES AGRAMONTE AS I KNEW HIM.*

WALTER J. CREE, M.D.
DETROIT, MICHIGAN

It has been my custom for a number of years to pass a couple of months in Cuba each winter. There I have met a number of prominent physicians in public and private life whose cordial welcome has made my visits very pleasant, and among them I have met the late Dr. Agramonte. In February, 1930, at the meeting of the Pan-American Medical Association at Panama the doctor presented a paper on the "Present Conception of the Etiology of Yellow Fever." Aboard ship on the return to Havana, he told a number of the doctors present some of the events of his early life up to the time he was appointed on the Yellow Fever Commission. His description of the methods used in pursuing the study of the disease and its elimination were made vivid by his self-effacing manner, always referring, as he did, to what his confrères had accomplished. It was a wonderful tropical night at sea and all those who had the opportunity of hearing his quiet impersonal talk will not soon forget the man who helped to rid the tropics of the yellow scourge. The cleaning up of Cuba and Panama made three countries inhabitable for the white man and also made it possible to build the canal without the great loss of life suffered by the French.

At the time of the American Medical Association meeting in Detroit in June, 1930, at the dinner of the Medical Veterans of the World War, Dr. Agramonte addressed the assemblage on the subject of the study of yellow fever by the commission of which he was a member. Helen Warrum Chappell, formerly of the Metropolitan Company of New York City, as one of her numbers sang the beautiful Mexican song "Estrellita" (Little Star). This pleased the doctor very much as the name of his daughter is Estrella. The doctor had a desire to visit Canada and I had the pleasure of entertaining him and Cuban Consul Barranco on foreign soil.

I met Dr. Agramonte again in Mexico City a short time before his death. At the Pan-American meeting he read a paper on "Some Aspects of Tropical Medicine." He took a very active part in the sessions, but to me there was something wrong with my friend. He seemed to lack the sprightly manner so noticeable on former occasions. The delegates at their last meeting decided on New Orleans as the next place of meeting in 1932, and this was a source of great pleasure to him as he had proposed that place. That same night I met him and he said:

"Goodbye, Cree, I hope to see you next year."

I informed him that it was possible that I would be there in November, 1931. He was pleased and said:

"So much the better, we will have a fine visit."

It was not to be, as he died on the 18th of August at New Orleans.

Dr. Agramonte was born in Camaguey, Cuba,

*This appreciation of the late Dr. Agramonte of yellow fever fame was written by Dr. Cree at the request of the editor. We are sure that our readers will appreciate this little human interest story.

June 3, 1869, and died August 18, 1931. He was brought up in New York City and graduated from the College of Physicians and Surgeons (now Columbia University) in 1892, a classmate of Dr. Jesse Lazear, who was with him on the Yellow Fever Commission. In 1898 when the Spanish-American war broke out he enlisted and was appointed Acting Assistant Surgeon. He had charge of the Army Medical Laboratory after the occupation of Havana. He was professor of bacteriology in the University of Havana in 1900 and subsequently a member of the National Board of Health of Cuba and for a time secretary of the Health and Charity Department. He moved to New Orleans in 1929 and became professor of tropical medicine in the State University Medical School. He was the recipient of many degrees and honors—Honorary M.B. from the University of Havana, Sc.D. from Columbia University and many other degrees and decorations from foreign countries, and medical associations in this country. Congress voted a life-long pension to the members of the commission and a gold medal. At the time of his death the medals had not come from the mint but were issued shortly after that time.

The passing of Dr. Agramonte was a shock to me but I am happy to say that I have known him as a friend.

COMPLETE STRICTURE OF COMMON AND HEPATIC DUCTS

Waltman Walters, Rochester, Minn., reports five cases in which purposeful external biliary fistulas were transplanted into the stomach or duodenum for the relief of biliary obstruction due to stricture of the common bile duct, so extensive that there was not enough normal duct to enable anastomosis into the duodenum. In two of the cases the results have been excellent. There has been no evidence of further biliary obstruction. One of these patients was operated on two and a half years ago. Two of the patients had good results. They have been relieved of the constant jaundice and itching and have improved in health and gained in weight, but at times have had indications of either stasis of bile or cholangitis evidenced by transient jaundice or mild pain. One patient died the fifth day after operation, from hepatic insufficiency and intra-abdominal hemorrhage. She had been jaundiced for years prior to the transplantation of the fistula.—*Journal A. M. A.*

SOURCE AND ROLE OF URINARY PROTEIN IN NEPHRITIS

William A. Thomas, Chicago, believes that the clinical picture of nephritis is due largely to generalized and specialized tissue damage, to disturbance in tissue metabolism and to mineral balance rather than to lack of renal function and retention of waste products and water. The kidney, normal or diseased, exerts a selective action on the proteins circulating in the blood, retaining those normal to that body and excreting those foreign to it. Artificial nephritis and uremia may be produced in dogs by the intravenous injection of a 5 per cent solution of sodium chloride. The urinary protein in these artificial uremias is at first pure tissue protein. When the tissue protein has been split to a toxic stage, it is combined with serum protein, which combination constitutes a foreign protein and is excreted as such. The presence of serum protein in the urine in nephritis is a detoxicating mechanism.—*Journal A. M. A.*

DEATHS

DR. E. L. PARMETER

Dr. E. L. Parmeter of Albion died at his home on Sunday, Oct. 18th, after over two months' illness. Dr. Parmeter was born in Concord Township on November 9th, 1851. He was a graduate of Albion College and later the Bennett Medical College of Chicago, from which institution he was graduated in 1876. Dr. Parmeter had practiced in Albion more than fifty years, having located in Albion in 1877. He had never aspired to any civic office but had been a member and at one time president of the Board of Directors of the Union Steel Products company since its organization over twenty-five years ago. He was a charter member of the Duck Lake Golf Club and Albion Chapter of the Three-Quarter-Century Club. He is survived by his widow, Mrs. Sara Elizabeth Parmeter, and one son, Dr. Rollin Parmeter of Detroit. The funeral services were held on October 20th, when burial took place in Riverside Cemetery.

DR. DAVID R. LANDSBOROUGH

Dr. David R. Landsborough of Stephenson, Michigan, died at his home on October 28, 1931. He was born at Seaforth, Ontario, on Dec. 10, 1871. He graduated from the University of Toronto in 1901, in which year he located at Daggett, Michigan. He was President of Menominee County Medical Society and also at one time of the Upper Peninsular Medical Society. Dr. Landsborough took an active interest in the civic affairs of his town. He was President of the Board of Education and Vice-President of the Bank of Daggett. The doctor belonged to the rugged type of country physician whose passing is regretted. He died in what may be considered the prime of an active life, namely at the age of sixty years.

TOO MANY "DROP-DEADS"

In speaking before the Congress of the American College of Surgeons at its recent meeting, Dr. Charles H. Mayo, of The Mayo Clinic, said:

"The world has moved ahead so fast as regards material civilization that man has almost, for the moment, got behind in his power of adaptation. Every other hospital bed in the United States is for mentally afflicted, insane, idiotic, feebleminded or senile persons. That's worry. It is worry that breaks down the brain, not work as such.

"Today it may be said that we are dying as individuals and not in droves. The world, through science, has been made a safe place in which to live. All the mass-destroying diseases have largely come under control, and now each adult must fight his own individual battle; usually he does not brook any interference with his own mode of living. . . .

"There are too many 'drop-deads.' The drop-deads occur in the city. They may die on the golf links, trying to do thirty-eight holes to show they are all right, but they really occur in the city. Farmers haven't the time to drop dead. . . . Unless you have been brought up to work in early life, do not get out and try to do stunts after you are 50 or 60 years old. . . . Please do not disregard disagreeable sensations or pain. Disagreeable sensations are practically always the first evidence of derangement of function."

GENERAL NEWS AND ANNOUNCEMENTS

Dr. J. C. Foshee, Grand Rapids, spent the first two weeks in November visiting the New York clinics.

The Special Committee on Foundations and Clinics held its first meeting in Jackson on November 5th. Dr. W. H. Marshall, Chairman, presided.

Dr. H. D. Chadwick of Detroit was elected President of the Michigan Tuberculosis Association at the annual meeting held at Ann Arbor on Oct. 16.

Volume XXX (1931) Journal Michigan State Medical Society contains 980 pages, being exactly twenty pages more than that published during the year 1930. This is the largest volume in the history of the Michigan State Medical Society.

On the afternoon of October 28 a number of the friends of Dr. Cyrenus G. Darling, emeritus professor of surgery at the University of Michigan, assembled at his home for the unveiling of a bust of Dr. Darling which was presented to the University by a group of Dr. Darling's old students. The presentation was made by Dr. Novy and accepted by President Alexander G. Ruthven. The bust was the work of the artist, Mr. Carleton Angell, of Ann Arbor.

At the annual meeting of the Detroit Roentgen Ray and Radium Society, Dr. John Murphy of Toledo was elected President for the ensuing year, Dr. E. R. Witwer, Secretary-Treasurer, and Dr. Rollin Stevens and William A. Evans were appointed a program committee. The X-ray and Radium Society were entertaincd at dinner by the X-ray Department of Harper Hospital. The program consisted of an illustrated paper by Dr. Evans on Developmental Anomalies of the Vertebral Column.

Dr. H. H. Hammel of Tecumseh, who holds the rank of major in the United States army medical corps, has completed a six weeks' course for field officers at Carlisle, Pa. Officers attending the school were from 13 states. Dr. Hammel was presented the Bresanhan saber for having the highest standing in the school, for proficiency in leadership and military bearing. The saber was presented by Gen. Munson, commandant of the school. Dr. Hammel is an ex-president of the Lenawee County Medical Society.

The Wayne County Medical Society, which for some time has considered a change in location, has been offered the Whitney home, located at the corner of Canfield and Woodward Avenues, Detroit. This building was one of the finest in Detroit, until business houses began to encroach so as to spoil the residential character of the neighborhood. Mr. David Whitney has offered the building to the Wayne County Medical Society to be used as a club house. This will give the Society more spacious quarters, for which it is badly in need. The gratitude of the Wayne County Medical profession is accorded Mr. Whitney for this munificent offer.

SCHOOL TO AID HANDICAPPED

The Ann J. Kellogg School, Battle Creek, Mich., was dedicated on Nov. 24. This is a special school designed and equipped to meet the needs of all types of children. Those whose sight, hearing or speech is impaired, also the crippled, the cardiac, the anemic, the mentally retarded, the emotionally handicapped, as well as normal and gifted children. The guest speakers at the dedication of this institution were the Hon. Wilber M. Brucker, Governor, State of Michigan; Dr. Alexander G. Ruthven, President, University of Michigan; Dr. H. E. Barnard, Director, White House Conference; Hon. Webster H. Pearce, Superintendent of Public Instruction; and Dr. Charles Scott Beery, Director of Special Education, Ohio State University.

THE HIGHLAND PARK PHYSICIANS' CLUB

The Highland Park Physicians' Club will hold its annual clinic December 5 at the Highland Park General Hospital Nurses' Home. Some of the men on the program are: Dr. Frank Lahey of Boston, who will speak on Carcinoma of Colon and Rectum; Dr. John Miller of Chicago on Problems in Surgery of Children; Dr. L. W. Dean of St. Louis on Sinusitis in Children; Dr. John Moorhead of New York on Traumatic Surgery; Dr. Cyrus Burford of St. Louis on Differential Diagnosis of Kidney and Ureteral Stones; Dr. John Scott of Cleveland on Heart Diseases; Dr. Ralph Kinsella of St. Louis on Treatment of Streptococcal Infections; and Dr. Carey C. Culbertson of Chicago on a subject in Gynecology. The full program will appear in programs to be sent out later. The Highland Park Physicians' Club extends a hearty invitation to all the physicians of the State to attend their clinic and hear all these men of national reputation and help make this clinic the outstanding one-day clinic in the country.

DR. MOLL HONORED

A testimonial dinner was given by the Genesee County Medical Society to honor one of their members, Dr. Carl F. Moll, President of the Michigan State Medical Society. The dinner was held at the Flint Golf Club on Wednesday, October 28, 1931. There was a very large attendance of members and guests. After the program, Dr. Moll, the guest of honor, made a very appropriate address in response to the many friendly remarks of the speakers. Following Dr. Moll, the toastmaster, Dr. Frank Reeder, introduced the out-of-town guests. The program was as follows: Toastmaster, Dr. Frank Reeder; Invocation, Fr. P. J. Dunnigan; The State Medical Society, Dr. F. C. Warnshuis; Past Presidents, Dr. H. E. Randall; The Physician and the Probate Court, Judge V. W. Dodge; The Physician and the State Board of Health, Dr. C. C. Slemons, and The Genesee Medical Society, Dr. L. L. Willoughby.

Dr. J. M. Robb of Detroit spoke briefly, commending the work of Dr. Moll and promising to continue it when he took office. Members of the Hurley Hospital board were also guests.

Among the guests present were Dr. Theodore Heavenrich of Port Huron, Dr. B. R. Corbus of Grand Rapids, Dr. C. A. Neafie of Pontiac, Dr. J. D. Bruce of Ann Arbor, Dr. Harley Haines, head of the University Hospital at Ann Arbor, Dr. Louis J. Hershman of Detroit, Dr. Harry Ferguson of Saginaw, Dr. Earl I. Carr of Lansing, Dr. J. H. Dempster of Detroit, Editor of the Journal of the Michigan in State Medical Society, Dr. Henry Luce of Detroit, Dr. G. H. McKenzie of Port Huron, Dr. Arthur Moll of Grand Rapids, son of the president of M. S. M. S., and Dr. J. Milton Robb of Detroit, who will follow Dr. Moll as president of the state medical society.

SOCIETY ACTIVITY

PRESIDENT'S GREETING

I am happy to extend to you Joyful Christmas Greetings, and the wish that the New Year will be generous to you in health, success and prosperity and in all that will help in making you better doctors. It is a wise custom at the close of a year to take an inventory, not only of our worldly possessions but of our spiritual assets. To strike a trial balance, so to speak, of our accomplishments and of our failures. Are we richer in the service we have rendered our fellow men, or have we failed in giving the best there is in us? Have we done our best in constructive work for the advancement of organized and scientific medicine, or have we shirked the responsibility that confronted us? These are queries that can only be answered by you as individuals. If you in your own minds find the balance in the "Red" now is the time to plan your budget to make it impossible for this to occur again. Our growing problems make it of vital importance that each and every one of us do his bit and do it with an eager energy that will not permit a failure.

Carl F. Moll, *President.*

GREETINGS

But a few weeks and once again we will be in the midst of the holiday season. The year ending has been one of many trying situations. A year in which we have encountered conditions that required sacrifices and the relinquishing of plans that each had hoped to consummate. A year, yes, of disheartening events. However, they are past. We are eager to forget them. We have survived. We are going to look forward—not back.

And so, with eyes and thoughts and spirit directed forward and to a new year we utilize this means to extend the season's greetings and good wishes to our members. Whatever the year has been or meant to you, do not permit it to cloud your holiday season. Now, if ever, do we need the spirit of good will and good cheer. Reflect it, extend it. Good cheer, good will will go far in aiding all who have been sorely tried. It will help them to surmount their troubles and inspire them to carry on with renewed zest and zeal.

So let your greetings and spirits be happy and merry. Extend them to all you meet and with a handclasp that is a little firmer, a little warmer.

It is in that spirit that we tender to all members, associates, advertisers and sister state organizations, a hearty, friendly wish for a merry Christmas season and Happy New Year.

PUBLIC HEALTH EDUCATION

E. A. MEYERDING, M.D., Secretary, Minnesota State Medical Association

What is the private physician's interest in public health education?

The question may be answered at length with Socratic dissertations on the duty of man. Or it may be answered practically and without any recourse to fine sentiment.

I shall choose the latter way, not because the doctor is impervious to fine sentiment, but because he has been too little aware of the very practical benefits to be gained for himself and his profession by an effective, organized participation in public health movements and preventive medicine in general.

Preventive medicine is, of course, the true child of the laboratories. It is the stepchild, so to speak, of the medical faculties and but recently taken under the wing of schools of orthodox medical arts. To many fine physicians trained in the older tradition of medicine, it may still seem as foreign as the painting of Picasso or flying as a convenient way to get to Chicago. But I believe it can be shown to be more profitable, even to these, than any of those other essentially modern signs of the times.

It is profitable because a child saved from the major health disasters such as diphtheria or scarlet fever or tuberculosis lives to have a possible appendectomy, a probable tonsillectomy, possible repeated childbirths and dozens of periodic health examinations, to mention only a few of the many possible profitable contacts with his physician.

Such contacts are easier, tidier and much better regulated than the emergency night calls that made up so much of the old timer's practice. They are much to be desired over the business of patching broken

parts. Ethically they are much more satisfactory.

Is such a picture of private medical practise far-fetched and impractical? Consider the life of the modern pediatrician. How much patching, how much emergency work in the dead of night does he do? His well trained patients come to him regularly at regular office hours whether they need patching or not. He regulates their diets, gives them their inoculations when they should have their inoculations, keeps them well in place of attending them when they are sick. Result: satisfaction all around on the part of both patient and physician—and a nice steady income for the latter.

Such a practice is waiting for the regular family practitioner, too. He could see his patients at regular intervals while they are well just as the pediatrician does—with a like steady gratifying income.

The question is: how is he to go about working up this enlightened continuous contact—not among the sick, only—but among well people who want to remain well? He can't go out and drum up such a trade. The pediatrician took advantage of the tremendous child health educational programs carried on in the last decade or so by all of the official and semi-official public health agencies to convert himself into an advisor for well babies in place of a last hope for the sick.

There is much more than a hint in that for the family practitioner. For instance, it is neither wise nor safe for the doctor, himself, to go about preaching the periodic health examination. But the doctor in his organized capacity can associate himself as advisor and director of the public health agencies, who can in their turn and will, with perfect propriety, do his preaching for him. Public health agencies are certainly equipped to preach the periodic health examination and preventive medicine in general with the same effectiveness that they have preached modern child care.

In this connection I want to describe one instance of a public health program associated with preventive medicine which can be made to yield literally hundreds of new and profitable contacts for the physician—profitable for patient and physician alike. This is the program of Mantoux tuberculin skin testing in the schools.

In Minnesota, the Minnesota Public Health Association, being the Christmas Seal agency for the state, has taken the lead in promotion of this program. The test has been followed everywhere with X-ray for those who reacted positively and the recommendation for examination by the family physician in each case.

The method is this: first they take their proposed program to the county medical society for its approval and advice and, incidentally, for the instruction of the physicians themselves. Tuberculin testing in unselected school groups is still new, of course, to the majority of physicians in private practice. A group of chest specialists of known reputation explain the proposal fully and give what amounts to a physician's short course on the details of the testing, its significance and the making and reading of X-ray plates.

In the course of the tests, a great many children appear with positive reactions who show no significant lung changes upon X-ray examinations and no sign whatever of clinical illness. These children are reported to their parents as having at some time been infected with tubercle bacilli. They are in need of two things: first an investigation into the family circle and immediate friends to discover if anyone among them is exposing the child to open tuberculosis, with a view to stopping a contact that may result in a dangerous infection; second, especial care for the general health of the child, his home and school surroundings, and frequent physical check-ups by the doctor to protect the child from any future flare-up of disease.

This considerable number of children above and beyond the number that are discovered with previously unsuspected childhood or adult type of tuberculosis, gives no outward indication of need for a physician's care. They constitute, if the physician interests himself in the testing program and cooperates with its sponsors, an entirely new group of patients that otherwise might never have come near his office.

There is no question that participation and encouragement of such public health programs as these is valuable.

As a matter of fact the whole public health program of enlightened, medically directed health agencies is not only valuable but absolutely essential if private medical practice is to accommodate itself to the practice of modern preventive medicine.

The problem of the physician is not to curb public health activity. It is to control

and direct such activity along sound scientific and economic lines. The public health agency needs the guidance of the practising physician. The practising physician equally needs the public health agency.

In Minnesota we are solving the problem by a practical union between the Minnesota State Medical Association and the Minnesota Public Health Association, Christmas Seal organization of the state. By this alliance, the health association benefits by sound medical advice in all of its undertakings, in its clinics, its health publications. The medical association profits doubly. In the first place it is able to keep public health education effort in the state out of the dangerous channels leading to socialization of medicine. In the second place it is able to promote without any violation of ethics or any awkwardness, the essential text, "See your family physician." The promotion of periodic health examinations, the routine of preventive inoculations and preventive measures in general—these are done with tremendous effectiveness by the public health organizations. The physician who does not give them his encouragement and approval and his aid when he can ethically do so is certainly in the absurdly untenable position of one who bites off his nose to spite his own face.

ECONOMIC PROBLEMS

There is a growing demand, and rightly, that medical organizations devote more time to a discussion of medical economic problems. That this discussion is necessary for the information of our members in order that they may the better understand existing conditions. Further, that they may conform to the policies adopted and terminate practices that are being critized by the public.

Our medical organizations can dominate and lead if we present a united front. The trouble has been that we have failed to concern ourselves. Secondly, we have failed to give consideration to the factors that raised the issues. Third, no definite program is adhered to; individuals and groups have pursued diverging courses.

In order that our members may be informed and by those who are in a position to intelligently discuss features of organized medical activity, arrangements have been made for a series of articles to appear in the Journal. We have invited leaders in different states to prepare these articles for this section of the Journal. The first article appears in this issue. It is anticipated that they will serve to inspire interest and impart information that will induce our members to unite in a movement that will conserve and enhance our economic interests.

WAR VETERANS' RELIEF

At the 1931 Philadelphia session of the American Medical Association, Dr. Shoulders of Tennessee introduced a resolution relating to the medical care of War Veterans.

This resolution was adopted by the House of Delegates and a special committee of the House was appointed to labor to secure the adoption of this type of veterans' medical relief. The special committee is headed by Dr. Wright of Minnesota, and the committee has been active ever since the meeting in Philadelphia.

It is quite essential that if this plan is introduced it is necessary to secure the endorsement and support of the state department of the American Legion. The responsibility of securing the endorsement of the American Legion in each state has been delegated to the State Medical Society.

In Michigan this activity has been partly instituted by Dr. Angus McLean of Detroit, who has already addressed or caused to be addressed some eight local posts of the American Legion and has secured their approval of this plan. The State Secretary has also on two occasions presented the plan to two legion posts. In order that an active campaign may be instituted in Michigan and that this plan may be presented to every legion post in Michigan, President Moll has assigned the task to a special committee on War Veterans' Relief and has appointed the following as members of that committee:

Dr. Angus McLean, Chairman, Detroit
Dr. J. G. R. Manwaring, Flint
Dr. W. E. Wilson, Grand Rapids
Dr. Robert Harkness, Houghton
Dr. Wm. C. Ellet, Benton Harbor

This committee will undertake to arrange and provide speakers in every locality in Michigan where there is a legion post and through these speakers present this plan.

Michigan's Medical History, 2 volumes, price $10.00, will make a pleasing Christmas gift. Order now from the State Secretary.

OPEN TREATMENT OF FRACTURES

Northwest Medicine reports the following Washington State Supreme Court decision:

"The verdict in a malpractice action should be sustained, where it appeared that an operation was performed in order to set a fractured femur *without first attempting to secure union by the use of some generally used extension process.*" (Italics ours.)

Such court decision is indicative of what claims may arise in fracture cases. It estops the doctor and prohibits him from electing to employ open reduction until he has used manipulative-traction methods. A serious restriction is established.

From a professional view one concludes that this court invaded a field in which it is incompetent to judge.

Experienced surgeons well know that there are types of fractures that demand immediate open reduction. To employ manipulation and traction in these types of fractures invites most untoward results.

The decision rendered is not in accord with surgical experience and fracture knowledge. An appeal should be taken to a higher court.

OUR ADVERTISERS

Advertising revenue makes our Journal possible. This revenue is dependent upon the patronage members give to our advertisers. Read the advertising pages. Answer these advertisements. Send in the coupon requests. A few stamps will bring you valuable information and samples that will be of use to you. You are urged to evidence this interest.

Reminder is again made that the Journal forms close on the 15th of each month. News items, announcements and reports should reach the Secretary before that date. Items received too late for publication in the current issue will be published in the next issue.

A set of Michigan's Medical History, Two Volumes, Price $10.00 for the set, will make a suitable Christmas gift for your associates, internes and friends. Your order, sent to the Secretary, will have prompt attention. Order today.

UNEMPLOYMENT RELIEF

November 9, 1931

To Officers of County Medical Societies
Gentlemen:

At the Pontiac meeting of our Society, the House of Delegates, by resolution, subscribed the profession's coöperative assistance to Governor Brucker for the purpose of aiding in the solution of the State's Unemployment Problem. This action was transmitted to the Governor. The following reply has been received:

Dear Dr. Warnshuis:

Your letter of September 29, addressed to Governor Wilbur M. Brucker, was referred to me for attention and reply, and I have delayed answering until such time as I could be sure that something definite could be suggested for consideration by the Michigan State Medical Society.

At the present time the counties of Michigan are rapidly being organized with county unemployment committees whose function it will be to seek additional jobs so that a greater percentage of those now out of work may be able to earn an income.

In a number of counties it has been the practice to subject applicants to medical examination, and reports from over the country indicate that physicians have frequently been able through such examinations to suggest lines of work for which various individuals are fitted, and also in some cases to apply remedies that would return to health heads of families who are not now able to follow any useful occupation.

In view of the fact that these committees are being organized on a county basis, it occurs to us that the County Medical Societies might find it desirable to offer their services in providing free examination for these persons, wherever they have not been so examined by some other agency.

If this suggestion meets with your approval we would be glad to know about it, and also would appreciate it if your office could communicate with your local organization.

I can assure you that the splendid offer which your Society has made has been appreciated very much, both by Governor Brucker and the members of the State Unemployment Commission.

Very truly yours,
(Signed) R. Wayne Newton,
Secretary Unemployment Commission.

As President I am transmitting this information accompanied with the following as my official recommendation:

That every County Society create a Relief Committee. That this committee make contact with the County Relief Committee and aid in every reasonable way to carry out Michigan's relief program.

I am of the opinion that the evidencing of such coöperation will redound to the profession's credit. I urge an active interest on the part of every County Society.

Respectfully,
Carl F. Moll, *President.*
By F. C. Warnshuis, *Secretary.*

PHYSICIANS FROM ALL PARTS OF STATE HONOR DR. MOLL

Dr. Carl F. Moll of Flint, new president of the Michigan State Medical Society, last night received the tribute of approximately 85 physicians from all over the state at a testimonial dinner at the Flint Golf Club.

Besides representatives of the state organization, doctors were present from nearly every city in the southern part of Michigan. Dr. Frank E. Reeder served as toastmaster. Speakers were Msgr. Patrick R. Dunigan, pastor of the St. Michael's Roman Catholic church, who also offered the invocation; Dr. F. C. Warnshuis, secretary of the Michigan State Medical Society; Dr. H. E. Randall of Flint, past president of the state organization; Probate Judge Vernon W. Dodge; Dr. C. C. Slemons of Lansing, secretary of the state board of health; Dr. L. L. Willoughby, president of the Genesee County Medical Association, and Dr. F. B. Miner of Flint, an associate of the honored guest. Dr. Moll

spoke briefly at the end of the meeting in response to the commendations of the other speakers.

After offering congratulations to the new state president, Msgr. Dunigan warned him against vesting in the state too much medical authority.

"The first thing to guard against is state medicine," he said. "The strong individual in the medical profession is the man whose interest lies in science and the man who has the courage of his convictions."

Dr. Warnshuis spoke of Dr. Moll as an outstanding physician in the profession, and declared that his character was largely responsible for the many friendships he had made.

"You know what he has done in Michigan," he told the audience. "You know he has stood high in the ranks of the American Medical Association. He has been a leader in organized medicine. We of the state society want to join with you as you honor Dr. Moll." Turning to the state president, he said:

"We as a profession are proud to have you lead us on through the difficult tasks we face."

"We in Flint feel that we are shareholders in the honor you have bestowed upon Dr. Moll," Judge Dodge declared. He spoke on the relationship of the medical profession with the probate court. "It is my wish that the big medicine chief will bear this in mind during his term of office." The Judge spoke of the doctors as "medicine men" who, in the Indian conception, were second only to the great chief. He said such an idea of the doctor should prevail among the people.

Representing the past presidents of the state society, Dr. Randall recalled incidents connected with the careers of each of the former chiefs. He said such recollections would help physicians to preserve the idealism of the profession.

"I know what the sentiments of these men would be, could they speak here tonight," he said, "and they would be to extend hearty greetings. With that goes our best wishes for success."

Probably one of the finest tributes was that of Dr. Miner, who as a fellow practitioner has been intimately acquainted with Dr. Moll for a number of years in Flint. He spoke of him more as of a friend than a scientist.

"His genial smile, his hearty greetings, announce his presence," Dr. Miner said. "We wait for his latest story. It would seem not extravagant to say of Carl: 'His interests are our interests.'"

Dr. Slemons outlined a plan for a public health program which he proposes for Michigan. He said public health is an economic problem faced by the new administration of the state society. Dr. Willoughby expressed his gratitude to the Michigan organization for electing a Flint man to the presidency. Telegrams of congratulation from the Bay county and Kent county societies were read.

Dr. Moll, in the closing address, promised his hearty service in his new office and asked for a measure of coöperation from the Flint members who had expressed themselves as his friends.

"Help me to guide the ship of organized medicine into tranquil waters," he pleaded.

Guests who were present last night include Dr. Theodore Heavenrich of Port Huron, Dr. B. R. Corbus of Grand Rapids, Dr. C. A. Neafie of Pontiac, Dr. J. D. Bruce of Ann Arbor, Dr. Harley Haines, head of the University hospital at Ann Arbor, Dr. Louis Hirschman of Detroit, Dr. Harry Ferguson of Saginaw, Dr. Earl I. Carr of Lansing, Dr. J. H. Dempster of Detroit, Dr. Henry Luce of Detroit, Dr. G. H. McKenzie of Port Huron, Dr. Arthur Moll of Grand Rapids, son of the honored guest, and Dr. J. Milton Robb of Detroit, who will follow Dr. Moll as president of the state medical society.

Dr. Robb spoke briefly, commending the work of Dr. Moll and promising to continue it when he took office. Members of the Hurley Hospital board were also guests last night.

—*Genesee County Bulletin.*

A HIRED DRIVER IS YOUR SERVANT

Certain garages advertise at times to provide one with a driver at a certain rate per hour. Doctors at times need the services of a driver. If you call a garage and secure a driver, he becomes your servant and you are responsible for his acts—the garage is not holden.

We state this as a warning. Recently a doctor called for the service of a driver. A garage sent one. This driver completely wrecked the doctor's car. In a suit to collect from the garage for damages a directed verdict of no cause was rendered.

BOARD OF REGISTRATION

SECRETARY'S BI-ANNUAL REPORT

October 13, 1931

To The Michigan State Board of Registration in Medicine:

I have the honor of transmitting to you the bi-annual report of the activities of this Board and its Secretary:

FINANCIAL:

Receipts, Oct. 1, 1929, to Oct. 1, 1930	$13,776.00
Receipts, Oct. 1, 1930, to Oct. 1, 1931	14,181.50
	$27,957.50

DISBURSEMENTS:

October 1, 1929, to Oct. 1, 1930	$11,848.31
October 1, 1930, to Oct. 1, 1931	12,761.74
	24,610.05

Net profit turned into General Fund:

1929-30	$13,776.00	
	11,848.31	
		$1,927.69
1930-31	$14,181.50	
	12,761.74	
		1,419.76
		$3,347.45

BALANCE as of October 1, 1929 (GENERAL FUND)	$24,688.90
1929-31 balance	3,347.45
TOTAL BALANCE (GENERAL FUND)	$28,036.35

EXAMINATIONS

Seven examinations were conducted:

	Primary	Final	Passed	Failed
1929				
Lansing, October	27		27	0
		27	27	0
1930				
Detroit, January	4		4	0
		4	4	0
Detroit, June	74		73	1
		94	94	0
Ann Arbor, June	171		170	1
		179	179	0
Lansing, October	26		26	0
		26	26	0
1931				
Detroit, June	69		69	0
		86	86	0
Ann Arbor, June	168		168	0
		127	127	0

Total primary.....539
Total finals.....543
Total primary-finals.....1080
Total failed.....2

Six regular meetings of the Board and three special meetings were held.

Number of licenses issued, Oct. 1, 1929, to Oct. 1, 1931—716
By examination—512
By indorsement—204

Licenses revoked during the past two years—11

Licenses suspended (temporarily)—3

Licentiates on probation—4

Causes for revocation—
Narcotic conviction.....1
Court conviction.....3
Illegal or irregular practice.....7
11
Number cited for hearings and hearings held before Board 33
Number cited for warning (1930-31 only)..... 22
Number complaints (1930-31 only)..... 59

PERSONNEL OF BOARD

On September 26 the following members were appointed by Governor Brucker, terms to expire October 1, 1934:

Drs. Kelly
Tew
Brook
McIntyre
Keyport

The following members' terms expire October 1, 1932:

Drs. McLaughlin
English
Walch
Yeomans
Tiefer

(Dr. J. J. Walch appointed to complete term of Dr. Lemire deceased.)

In June, 1931, Dr. Nelson McLaughlin resigned as President and Dr. Frank A. Kelly was elected President for the remainder of the term.

At the bi-annual meeting of the Board, October, 1929, Dr. F. C. Warnshuis was elected Secretary for the term of two years; Miss S. Brown was elected as Assistant Secretary for the same term.

SECRETARY'S ACTIVITIES

During the past two years your Secretary has discharged the following official duties in accord with the official actions and instructions of the Board, and by and with the knowledge of the officers of the Board:

Monthly letter.—Your Secretary has endeavored to inform the members as to official activities by means of a monthly letter, as well as by special communications. As a rule weekly conferences were had with the President. A studied endeavor was made to keep the members informed as to all Board matters and the official acts of the Secretary. At each Board meeting a résumé was rendered.

Offices.—In November, 1929, the Board's offices were removed from the Stroh Building to the Maccabee Building, Detroit.

During his term your Secretary has spent from two to four days per week in the Board's offices. He has made frequent trips to Lansing to confer with state officials. He has had several conferences with officials of the two medical colleges of the state.

He has consulted with twelve prosecuting attorneys and has had many conferences with investigators from the Department of Health, and the Department of Public Safety.

He has had an equal number of conferences in his Grand Rapids office, with also an equal correspondence.

In general, the time devoted to official duties has been equivalent to full time service.

Legal.—In all legal questions, the advice of the Attorney General and the Prosecuting Attorneys of Wayne County and Kent County has been sought.

The Attorney General has imparted opinions on:
Board's power and procedure for revocation;
Corporation practice;
Limitations of drugless practitioners;
Form of new certificates;
Board hearings.

The Attorney General has represented the Board in two appeals to the Supreme Court and one appeal to the United States Supreme Court. Two requested opinions will be forthcoming in the near future.

Intern Requirements.—Following correspondence with colleges and hospital representatives, requirements to be met during the intern year were formulated and presented to the Board. After their adoption approved hospitals were notified.

Board Forms and Rules.—New blank forms were drawn up and are now in use. The administration rules of the Board have been compiled and issued in printed form. A new form of certificate of registration was drafted and approved by the Board. A request for funds for a modern filing and record keeping system was made; the request was denied by the Administrative Board. Such a system is imperative in order to index and summarize Board's records.

Complaints.—No week passed without one to ten complaints being filed. They emanated from citizens, doctors, court officials, business bureaus, health officials and committees. In every instance the complaint was carefully investigated and disposed of in the following manner:
Referred to a prosecuting officer;
Referred to an investigator;
Holding interviews, with probation;
Referred to a Board committee, or cited to appear before the Board.

Few realize that the Board is not charged with enforcement powers. It is estimated that there exist some 700 violators of the practice laws of the state. In consequence, complaints to this Board will continue to be filed. They must be acknowledged and dealt with. While not charged with enforcement, a certain responsibility to bring about enforcement rests upon this Board. To discharge that obligation the Board cannot ignore complaints, and instigate, as far as possible, prosecutions.

Legislation.—Upon the Board's direction, your Secretary conferred with the Attorney General and co-operated with him in drafting a bill providing for certain amendments to the present medical practice laws. Much time and effort was devoted to this draft and extended correspondence was entered into with national authorities. When the draft was completed it was sent to each member and to the county medical societies. At a special meeting of the Board the amendment was approved and the Secretary instructed to cause it to be introduced. After consultations with the Governor, the President and certain Board members, the bill was introduced. Committees of the Senate and the House were supplied with information as to why these amendments were desired. Other follow-up measures were employed until about six weeks before the Legislature adjourned, when the President directed the Secretary to discontinue further activity. The amendments were not adopted.

By and with the advice of the Board, a budget was prepared and submitted together with reasons substantiating each item. The Budget Director of the State sent into the Legislature a budget of the same amount as the Board had the past two years. The Finance Committee of the House and Senate were supplied with facts justifying the Board's requirements. No representation or requests were advanced by Board members or any endeavor made to secure sufficient appropriations to conduct the Board's business. The House and Senate approved the budget amounts contained in the appropriation bill. On the last day of the Legislature, in a conference, the Legislature struck the Secretary's salary. The funds appropriated are insufficient for the coming two years. It can be stated that sufficient funds will not be appropriated until the entire Board energetically undertakes to cause the Legislature to perceive the Board's financial needs.

The Legislature appointed a committee to study and draft a bill that will regulate all those who practice the healing art. From other sources an idealistic suggestion has been advanced to abolish all licensing bodies and to consign their present duties to a single licensing commission, or board. It may be assumed that the next Legislature will endeavor to enact new legislation to govern the functions of this Board. It is most important that serious consideration be accorded to these proposals and that representation be made and had in arriving at a solution.

Board Examinations.—It can be asserted that present day methods of medical education and training well-nigh render the Board's examination methods as obsolete and appraise them as being only a form. The present examinations, by the most liberal appraisal, cannot be considered as adequate to ascertain the applicant's qualifications. Our form of examination is no longer sufficient or discerning. The time is at hand when active measures must be adopted to bring the Board's examinations up to a plane whereby a candidate's qualifications may be determined more efficiently and reliably. This is imperative, in order to maintain recognition for our licentiates.

The progress made by scientific medicine and the practice reflected by members of the medical profession both compel this Board to adopt certain rules, prescribe definite qualifications to be met and to issue a special certificate attesting to an applicant's competency to claim special ability in the several branches of medicine. The public is entitled to this protection and it is this Board's duty to take the initiatory action. Such a demand is growing in force and gains inspiration from educators and economists. This problem is now at our door and if licensing bodies do not solve it we can expect that legislative bodies will enact discriminating, inadequate, and probably intolerable, laws.

Licenses in Force.—The records of the office are such that it is impossible to state how many licenses are in force today. We are unable to state how many licenses are ineffective by reason of revocation, or the removal or death of licentiates. To obtain all this information it is necessary to check and recheck every license issued and ascertain the whereabouts of every licentiate and institute an active and inactive license file. To do so will entail an expenditure of about $5,000 for files, clerical assistance and correspondence. The work would consume about a year's time. This is the only way to bring our files up to date and having once done so they can readily be maintained.

Federation Relationship.—New York State, on a technicality, has for many years declined to recognize and indorse Michigan's license. During the past year your Secretary has re-opened this situation. Briefs were filed, facts were presented and the points raised were answered. I am in receipt of a letter from the New York Secretary that upon the representation made New York will now recognize the Michigan license and that the formal action would be recorded at their next meeting. This, therefore, clears up a situation that has been the source of much controversy over a period of fifteen years.

Washington State modified its medical law this past year and incorporated a basic science examination requirement. They now require those seeking Washington indorsement to take their basic science examination, even though their Michigan license was dated prior to 1931. This retroactive application of this law was deemed unjust. In consequence, Michigan, with many other states, severed indorsement relationship with the State of Washington.

Your Secretary was elected Vice President of the Federa-

tion of Examining Boards at the February, 1931, meeting. He was also appointed Chairman of a committee on Corporation Practice. This committee is to formulate an opinion and policy to be observed by all state boards in dealing with corporate practice of medicine.

Recommendations.—The experiences and activities of your executive officer induce him to submit the following pertinent subjects to this Board for consideration, action and instructions:

1. That the Board's method of holding examinations be reviewed with a view to modifying them and to incorporate certain oral and clinical examinations as requisite for securing a license.
2. That the Board go on record that it cannot issue a blanket license to a corporate group organized to practice medicine under a corporate name.
3. That the Board define "contract practice" as referred to in our law.
4. That the Board appraise the Army and Navy Medical Colleges and determine what recognition it will give to its graduates.
5. That the Board determine whether those serving in a Veterans Hospital shall be classified as U. S. medical officers and whether they shall come under the exemption provision in our law.
6. That the Board declare a policy in regard to licensed Indiana and Wisconsin physicians who are living on the border of Michigan and who practice at times within the boundary of our state.
7. That the Board take action to establish contact with the Special Committee of the Legislature, appointed to make recommendations for medical legislation to the next Legislature.
8. That the Board designate representatives to appear before the Administrative Board for the purpose of securing the required appropriations that will enable the Board to function efficiently.

CONCLUSIONS

In completing my term of office as Secretary, I sincerely express my appreciation for the privilege of serving and the consideration accorded.

I have sincerely endeavored to comply with the Board's every instruction. My quest has been to impart my every activity in order that each member might remain informed as to that which was being done. In my monthly letters, and in my semi-annual reports when the Board was in session, I have reported to you in detail that which had been done and the matters that were pending, and sought your instructions and advice.

The objective sought was the efficient discharge of the Board's business. Secondly, to enhance the Board's standing in order that it will attain and maintain a foremost position in the Federation of American Examining Boards and so cause Michigan to be recognized throughout the nation as a Board that is functioning in a manner that will inspire confidence. Lastly, to serve the people of Michigan by providing for them licentiates whose qualifications conform to present day standards.

Such has been my motive and to that end did I labor.

Respectfully,
F. C. Warnshuis,
Secretary.

PROCEEDINGS OF THE COMMITTEE ON SURVEY OF MEDICAL SERVICE IN MICHIGAN

1. In compliance with the resolution passed by the House of Delegates of the Michigan State Medical Society at its annual meeting in Pontiac, September, 1931, President Moll appointed the following as members of a special committee on Survey of Medical Services in Michigan:

W. H. Marshall, Chairman,
L. G. Christian,
Bert U. Estabrook,
C. S. Gorsline,
F. A. Baker,
F. C. Warnshuis, Secretary Ex-officio.

2. At the call of the Chairman, Dr. W. H. Marshall, the committee met in the Hayes Hotel, Jackson, Michigan, at noon November 5, 1931, with all the members of the committee present.

3. The resolution introduced in the House of Delegates and passed was read and discussed by the members of the committee.

4. Upon conclusion of the discussion Dr. W. H. Marshall, Chairman, presented the following statement as to the objectives of the committee:

THE ECONOMICS OF MEDICAL CARE

W. H. Marshall, M.D.
Flint, Michigan

The science and art of medicine present very complex problems, but the sociologic and economic phases are still more complex. During the last two years, the rapid changes in our social order and the continuous readjustments have bewildered many of us. This is probably the reason why the House of Delegates has assigned such a formidable task to us. Such pessimists as Mr. H. G. Wells think that our civilization is sweeping towards a cataclysmic downfall. Other keen students of this economic crisis believe that our American capitalistic system may cure its own ills and all may be well for a time, at least. Others think that we are in a period of transition from the old order of things to a new order.

I am inclined to believe that we are in a state of rapid transition. Schools, colleges, the press, the movies, and the radio, have given us a more intelligent public, and our civilization seems to be changing very rapidly. The exploiter of humanity will not have as easy a time as when this was a peasant world. The greatest fault of our democracy is our fear of the expert. While our industrialists have been quite ready to accept the work of research engineers, yet in our political and economic life we have been slow to accept the findings of the trained economist. He will eventually be given the consideration which he deserves.

If the world is to be saved, it will be by men of common sense, by men who have faith that evolution gradually brings us up to a higher order of things, by men who have courage to take life as it is and who faithfully work to make it better. In other words, adequate leadership is our supreme need today. The men who have assumed leadership of our medical societies should also assume the obligation to face the difficulties of the present moment. They should not lose their heads and run to the government for remedies which it is not a part of the government to provide. We should not act rashly. In this amazing time, we are too near the blurred picture to grasp its significance. But we can be sure that, although political and economic systems may change, the sick and the maimed will still need care, and the medical profession, in spite of its imperfections, will still continue to give it. It is pathetic to realize that our people are getting but a small percentage of the benefits which modern medical science can confer upon them. Particularly is this view forced upon us after reading of the work of the Danish Medical Profession. May we say, in passing, that in no other country are the people getting the benefits of an educated medical profession so splendidly as in Denmark. Further, in no other country is the doctor so highly respected.

Undoubtedly our profession may have some shortcomings, but we should be courageous enough to face the facts, and to diagnose and cure our own ills rather than have this done by outside interference. Philanthropists will, as always, provide funds for the needy and afflicted. This is commendable. But we have failed in having very little to say about how such funds shall be administered. Our guidance and advice would have been welcome if we had but merely shown our interest.

The medical profession has a record of unselfishness and high-mindedness not excelled by that of any other social group. From the time of Hippocrates our profession has been activated by two principles only—philanthropia or the love of humanity, and philotechnica, the love of our work. Financial gain has never been a dominating motive. But in this rapidly changing epoch conflicting loyalties are inevitable—someone else and his family—ourselves and our own family. It needs courage today to have the larger outlook when we are compelled to adapt ourselves to a society that has been dominated by a super-acquisitive industrialism.

The reaction of the public to the press reports of our Pontiac meeting clearly shows a rising tide of public distrust in our motives. Such situations may play a large part in forcing state medicine upon us, for the public is always stampeded by emotional propaganda rather than by rational arguments. History usually repeats itself, and after every economic depression we have always had a flood of legislation relative to workingmen's compensation, insurance, etc. It would be very inopportune for this committee to sweepingly condemn all the activities mentioned in this resolution. In many of these agencies there is much to commend, and they have evolved because there seems to be a need for them. We cannot stop social evolution any more than we can stop biological evolution, and should we merely condemn these agencies without a thorough investigation of their merits, we will simply increase that social animosity towards our profession which seems to be increasing year by year. To merely protest against certain conditions does not indicate that we are thinking logically—it may merely indicate that we are reacting in a reflex way to protect our own interest while disregarding the rights of the public. Our American people are beginning to insist in no uncertain tones that human rights are as fundamental as property rights.

The preamble to the resolution seems to indicate that health agencies are being organized with little discrimination, and that there is obviously a marked tendency towards paternalism. Moreover, there is much overlapping and duplication of interest. We should review very carefully the activities of each agency named in an attempt to avoid duplication of efforts as far as possible. There are agencies mentioned in this list which are now opposed by many doctors. But our disapproval means nothing and can accomplish nothing. We cannot be wholly indifferent to these trends in medical economics. I believe that we must get the best constructive thought which is available in our society, so that if any modification of our present relationship with the public should seem necessary, such modifications should arise within the profession itself.

The practice of medicine is highly individualized; not only does each patient present individual problems, but each community has problems differing in many ways from those of other places. I believe that County Societies could settle most of these difficulties better than the State Societies could. Thus, the situation in Detroit differs considerably from that in Grand Rapids, or Flint, and very greatly from that in the smaller cities, towns, and villages. For example, contract practice is frowned upon in Detroit, and yet for a great many years it has been considered to be quite ethical in the mining and lumber towns of the Upper Peninsula. Moreover, it would be difficult to designate who shall be called "poor" in the state as a whole, inasmuch as the wage scale and the cost of living vary so much in different cities. I further believe that if a small unit of government, for example, a village or a township, finds difficulty in retaining a doctor, a municipal physician could well serve such a unit under contract. This has been successfully accomplished in rural Saskatchewan. This might be the only way by which the continued services of a medical man could be assured, and I do not believe such an arrangement should be called State Medicine. I am Jeffersonian enough to allow the smallest units to solve their own problems and I am opposed to the centralization of government and government agencies.

In approaching our task, three methods of procedure might be considered. First, this committee can gather what data may be available, and procure further data that may seem necessary by our own investigations, or by questionnaires. Then we might endeavor to agree upon recommendations to be embodied in our report to the House of Delegates. This could be accomplished before February, 1932. It is questionable if such a report would be very valuable; in fact, such investigations seem to have borne but little fruit.

The National Committee on the Cost of Medical Care has already expended about a million dollars in the investigation of the problems of medical economics. About twelve of their twenty-six publications have already been issued. It would be desirable for every member of the State Society to read these books, and certainly our committee would have a narrow outlook if we failed to study the data afforded by this survey.

Secondly, we could arrange a get-together conference with representatives of the various agencies concerned. Such a meeting would require a session of not less than two or three days. It would have the advantage of promoting a better understanding of each other. In passing, several of the agencies mentioned in this resolution could not be represented because many of their problems are already settled by Federal and State laws.

Thirdly, if we recognize that our difficulties are but the growing pains of a rapidly evolving social order, it will do little good to offer mere palliative treatment. Scientific sociology might point the way to a better solution of our problems. If a comprehensive survey seems desirable, these matters should be turned over to an expert in sociology and economics. He should be a man trained in conducting surveys. He should be a layman. He undoubtedly could get assistance from the departments of Economics and Sociology. There is always an abundance of graduates going up for higher degrees who are eager to have new and practical problems for their theses. Such a plan would have definite advantages. The findings would be applicable to our own state, whereas those of the Committee on the Cost of Medical Care are not. The workers should be trained men and under expert supervision. The work should be carried on by students outside of our profession and this would relieve the doctors of that suspicion with which the laity is likely to view our efforts. Such a thoroughgoing investigation would give us a mass of data pertaining to important sociological and economic problems of our own state. A better mutual understanding would help us to readjust ourselves, and in the long run would promote better feeling and greater stability in this commonwealth. Such a task would require at least two years to complete. It would cost not less than $50,000, a sum much too large for this Society to underwrite. Possibly some organization, such as the Millbank Fund or the Rosenwald Foundation, could be induced to finance such a survey. I believe, however, that our society should have something to say about the selection of personnel. So far as I know no other state in the Union has attempted such an investigation in an attempt to analyze the medical needs of a state and to correlate them with the existing medical facilities and agencies. Michigan has frequenlty pointed the way in medical affairs. It would be to her glory if again she would blaze the trail for sounder medical economics. Therefore, I should like this committee to

request the House of Delegates of the Michigan State Medical Society and the Secretary thereof to make overtures to some organization capable of doing this work.

Many questions come up immediately. We must decide if a medical problem exists. If so, in what social groups is it manifest? This situation is dependent upon the relationship between income and the cost of living. Accurate data on this are available from government sources. Assuming that there is a medical problem, what is the best possible solution? By whom shall it be solved—by a medical or by a public organization? If a tax-supported agency must furnish the relief, who shall direct or control its activities? Many other questions are readily suggested.

Our task is a difficult one. There are those in our Guild who adhere strongly to tradition. There are those who would turn the clock back thirty years if they could. There are those, like President-Elect Kanavel of the American College of Surgeons, who would have the profession guide the movement toward collective medical services for people of moderate means. Finally, there are those who by temperament will find fault with any scheme of things. But we must not trim our sails to please any group. If we lay claim to being honest scientific men, we should get honest facts. Then we should weigh them carefully and then decide upon plans that will give the people of the State of Michigan a medical service second to none. Then, and only then, will we gain the respect which we think our calling deserves.

5. Upon motion of Gorsline-Baker, the Chairman's statement was endorsed.

6. Upon motion of Christian-Estabrook, the Secretary was directed to make contact with several national foundations for the purpose of ascertaining whether or not some one of these foundations would undertake to underwrite a complete and thorough study of the medical services that are now being operated in the state by various groups, foundations and other organizations, and to report at the next meeting of the committee.

7. After considerable discussion as to the problems and methods in which the work of the committee may be best instituted the Chairman assigned certain investigations to the following committee members—

Industrial Medicine, C. S. Gorsline
United States and State Health Service—B. U. Estabrook
Hospital Problems—F. A. Baker
County Society Contract Work—L. G. Christian

8. Upon motion, the committee adjourned to meet in Lansing on the afternoon of December 2, 1931.

F. C. Warnshuis, *Secretary.*

POSTGRADUATE CONFERENCES

On November 5, the Jackson County Medical Society conducted its annual conference in conjunction with the members of the Second Councilor District. The attendance reached 238.

It can be recorded that this conference excelled every other conference that has been sponsored this year. No other session recorded such a large attendance, presented so well balanced a program or imparted so great an amount of instructive information. Every credit and commendation is accorded to the Jackson profession and the local committee, led by Drs. Peterson, Corley and Schmidt, and Dr. Alter as secretary.

Many attended from outside the district. The State President and President-elect were also present.

The program, as published in the November Journal, was begun at 9:15 A. M., and a full attendance was maintained throughout the day, till after Dr. Charles Mayo ended his address at 5:20 P. M.

Following adjournment Councilor McIntyre conducted a round-table conference of the members of the Public Health Committees of the Societies in his district. A program of uniform health activity was formulated.

We repeat, the year's banner is awarded to Jackson County. Their work should inspire other districts to conduct conferences of equal value.

A Postgraduate Conference was held by the Eleventh Councilor District in the Muskegon County Sanitarium, Muskegon, Thursday, November 12, 1931. A luncheon at noon preceded the afternoon's program:

1:00 P. M. Pulmonary Tuberculosis—A Clinical Demonstration
Stuart Pritchard, M.D., Battle Creek
1:45 P. M. Mortality Factors in Appendicitis
Frederick A. Coller, M.D., Ann Arbor
2:30 P. M. Infectious Diseases, Prophylaxis and Treatment
John E. Gordon, M.D., Detroit

A similar program was given by the Third Councilor District at the Post Tavern, Battle Creek, Friday, November 13, 1931, as follows:

A Discussion of Social and Medical Agencies

1:45 P. M. The State Department of Health
.....C. C. Slemons, M.D., Lansing
The Children's Fund of Michigan
.....Mr. Wm. J. Norton, Detroit
The W. K. Kellogg Foundation
Stuart Pritchard, M.D., Battle Creek
The State Medical Society
.....B. R. Corbus, M.D., Grand Rapids
The University Medical School
.....J. D. Bruce, M.D., Ann Arbor

PEDIATRIC AND ORTHOPEDIC PROGRAM

A pediatric and orthopedic program was given by the Children's Fund of Michigan and the Michigan Crippled Children Commission under the direction of the Michigan State Medical Society at Escanaba, Michigan, Friday, October 16, 1931, in the First Baptist Church, as follows:

1:00 p. m. Pediatric Clinic—Dr. M. Cooperstock, Marquette
2:00 p. m. Orthopedic Clinic—Dr. Chas. W. Peabody, Detroit
3:00 p. m. Acute Infectious Diseases, including résumé of Infantile Paralysis Situation—Dr. John E. Gordon, Detroit

INTER-COUNTY MEETING, BAY COUNTY

On November 4, at Franklinmuth, 136 members were present at the Inter-County Meeting, which was addressed by Dr. Bernard Fantus, professor of Therapeutics, University of Illinois.

Councilor Urmston introduced President Carl F. Moll, who responded with his usual inspiring advice.

Councilor Urmston then introduced the invited guest speaker, who spoke on "Therapy of Colon Stasis."

Members were present from Grayling, Detroit, Lapeer, Saginaw, Flint, Bay City and adjacent territory. This attentive audience acknowledged a profitable evening.

At the conclusion of the program Councilor Urmston and the officers of the Bay County Society assumed the rôle of genial hosts. Many friendships were renewed and made.

These inter-county meetings are looked upon as a profitable adjunct to the county society meetings and go far in advancing the profession's solidarity. The programs have all been of outstanding interest, with national men as guest speakers.

COUNTY SOCIETIES

CLINTON COUNTY

At the regular annual meeting of the Clinton County Medical Society, held at the Clinton Memorial Hospital on October 20, 1931, the following officers were elected for the ensuing year:

President, Dr. G. H. Frace, St. Johns, Michigan; vice president, Dr. F. E. Luton, St. Johns, Michigan; secretary and treasurer, Dr. T. Y. Ho, St. Johns, Michigan (relected); delegate to state society meeting, Dr. W. B. McWilliams, Maple Rapids, Michigan; alternate to State Meeting, Dr. A. O. Hart, St. Johns, Michigan.

T. Y. Ho, M.D., *Secretary.*

GRATIOT-ISABELLA-CLARE COUNTY

The October meeting of the Gratiot-Isabella-Clare County Medical Society was held at the Wright Hotel, Alma, Thursday, October 15, 1931.

Dinner was served to twelve members and four visitors. Five members came in after dinner for the program.

The meeting was called to order by President Harrigan. The minutes of previous meeting were read and approved.

Dr. T. J. Carney made his report as delegate to the State Society in Pontiac.

President Harrigan then introduced Dr. N. W. Larkum, immunologist of the State Board of Health, who talked on "Bacteriophage." Some of his points were as follows:

Bacteriophage was first discovered by d'Herelle, a French bacteriologist, while working with a fecal filtrate. He found the latter would sterilize a culture of Shiga bacillus. It is not known what the phage is. However, it is known that when this substance is placed in contact with certain bacteria it reduces their resistance to the leukocytes. Or to say it in another way, the leukocytes that would digest one bacteria before the phage was placed in contact with the bacteria would digest four after the phage was mixed with the bacteria.

Bacteriophage is useful in the treatment of cholera, dysentery, furunculosis, impetigo, staphylococcus infections, some strains of streptococcus, and acne, and gonorrhea.

There is no set dosage. The State Laboratory recommends 2 c.c. subcutaneous, repeated inside of 48 hours. In acne, they recommend 8 to 10 injections at weekly intervals.

We have no phage for colds in this country.

After Doctor Larkum had talked for one hour, he very kindly answered many questions.

On behalf of the Society, President Harrigan thanked Doctor Larkum for his very instructive and interesting talk.

The meeting adjourned.

E. M. Highfield, M.D., *Secretary.*

JACKSON COUNTY

The October meeting of the Jackson County Medical Society was held in the Memorial room of the Elks temple after a six o'clock dinner. Dr. Clarke, chairman of the Health Education Committee, gave a summery of the work done by this committee during the past year. Their work has been of an educational nature, directed towards arousing the public to the importance of health and the value of periodic health examinations, and towards the development of proper medical service and advice. The public was reached through the the press, the platform and through visual education and demonstration. During the year there were twenty-seven news items to appear in local papers sponsored by the Society, and one paid announcement. The Society also sponsored ninety-five lecture programs in the city during the year. In the visual education campaign there were three moving pictures used, thirty poster exhibits, four thousand pamphlets distributed, twenty-two food exhibits, eight cooking exhibits, and four hundred and twenty-five Mantoux tests completed. All of this was done at a cost to the Society of $238.96. Plans for extending this work are in progress. A conference with leaders in health education activities in adjoining counties will be held in Jackson next month for the purpose of determining how best this may be carried on.

Dr. Riley, chairman of the golf committee, gave a report of the doctor's tournament, which just closed. The silver cup donated by Mr. Geo. Campbell was won by Dr. W. H. Enders, who was runner up last year. Dr. Cooley was runner up and took second prize of ten dollars in trade at the Sun Bldg. Drug Store. The low gross score was won by Dr. Leahy and the prize for high gross score by Dr. Marsh.

It was moved by Dr. Riley that the committee recently appointed by President Moll to investigate the work of clinics and health agencies be invited to Jackson to hold their meeting on Nov. 5. Motion seconded by Dr. Munro and the motion carried.

It was reported that on a few occasions county indigent patients have not been allowed to have the physician of their choice, as was agreed by the County Board of Supervisors and local physicians. Physicians are requested to report these cases to Dr. Smith. It was also reported that two supervisors were not respecting the fee schedule adopted. These should also be reported.

The Society went on record as approving the work of Dr. Warnshuis as secretary of the Michigan State Medical Society and hopes that he may be retained as the Secretary in the future.

There was considerable discussion about the care of the city indigent cases. Dr. Enders moved that a committee be appointed to work out a plan for taking care of these patients. Dr. Harris seconded the motion and the motion carried.

The meeting was then turned over to Dr. Frank Pray, program chairman, who introduced Dr. T. G. Yeomans of St. Joseph, who talked on some of the problems of the State Board of Registration. The Society went on record as opposing the annual reregistration of physicians and a $15.00 fee for the registration of specialists.

R. H. Alter, M.D., *Secretary.*

SANILAC COUNTY

A reorganization of the Sanilac County Medical Society was accomplished October 23, 1931, with sixteen physicians present. At this time it was recommended that all the names of physicians in Sanilac County be forwarded to the State Society and they in turn mail the Journal to each until January, 1932, when the annual dues will be paid and sent to the State Secretary.

The following officers were elected: John E. Campbell, Brown County, president; Kenneth Dick, Carsonville, vice president; S. Martin Tweedie, Sandusky, secretary and treasurer; J. C. Webster, Marlette, delegate to State Convention; R. K. Hart, Croswell, alternate delegate.

H. H. Learmont, Croswell, and D. D. McNaughton, Argyle, were appointed members of the Medico-Legal Committee.

The first meeting was held at Sandusky, Mich.,

November 5. A dinner was given at Hotel McDonald by Drs. Evans and Martin Tweedie.

Dr. Clarence Owen, Pathologist Grace Hospital, Detroit, gave an interesting paper on "Diagnosis with Simple Laboratory Procedures." Discussion followed.

Dr. J. E. Campbell, President, had charge of the meeting and advised the combining of the Seventh District Counties into a unit for political power and having each county give one dinner a year.

A meeting of the Lapeer County Society was held at Imaly City, November 12, which a number of Sanilac physicians attended and furthered the discussion of uniting.

A resolution was passed giving unanimous consent to Dr. Heavenrich, Councillor, to use his voting power for the retention of Dr. F. C. Warnshuis as secretary of the state society.

Twenty-four physicians were present at the meeting.

S. Martin Tweedie, *Secretary-Treasurer.*

MACOMB COUNTY

The Macomb County Medical Society met in the Park Hotel, Mount Clemens, at noon November 2, 1931. Twenty doctors were in attendance. The routine business of the society was discussed and plans for the winter were outlined.

By invitation Dr. T. F. Heavenrich of Port Huron was the speaker of the afternoon. He gave a very interesting talk on business conditions affecting the doctor and the practice of medicine. Following Dr. Heavenrich's talk there was a general discussion of the subject that proved very interesting and instructive to the members.

Joseph N. Scher, *Secretary.*

WAYNE COUNTY

Dr. Raphael Isaacs of the Simpson Memorial Institute, Ann Arbor, will speak before the Wayne County Medical Society at the General Meeting of December 1, 1931. His subject will be "The Present Status of the Diagnosis and Treatment of Anemia; with Memorandum."

Dr. Ralph Pemberton of Philadelphia will speak before the Medical Section on December 8. His subject will be "The Newer Outlook on Chronic Arthritis."

Dr. Carl Menninger of Topeka, Kansas, will address the joint meeting of the Wayne County Medical Society and the Detroit Society of Neurology and Psychiatry on December 15, 1931, in the County Society's auditorium.

All members of the Michigan State Medical Society are cordially invited to attend meetings of the Wayne County Medical Society, which are held every Tuesday evening in the Society's auditorium, lobby floor, Maccabees Building, Woodward at Putnam, Detroit—opposite the Public Library and Institute of Arts.

Radio broadcasts over station WWJ have been sponsored through the coöperative efforts of the Public Education Committee of the Wayne County Medical Society and *The Detroit News.* This series began on October 19, 1931, and includes ten lectures as follows:

Time: 5:30 to 5:45 P. M.
Monday, Oct. 19, 1931 "Common Colds"
Dr. John T. Watkins
Monday, Oct. 26, 1931 "Physical Culture Fads"
Dr. F. C. Musser
Monday, Nov. 2, 1931 "The Eye"
Dr. Ralph Pino
Monday, Nov. 9, 1931 "Reducing Fads"
Dr. C. J. Marinus
Monday, Nov. 16, 1931 "Urology"
Dr. Wm. E. Keane
Monday, Nov. 23, 1931 "Are We All a Little Crazy?"
Dr. D. R. Clark
Monday, Nov. 30, 1931 "The Skin"
Dr. R. A. C. Wollenberg
Monday, Dec. 7, 1931 "The Ear"
Dr. Wadsworth Warren
Monday, Dec. 21, 1931 "Diphtheria"
Dr. John E. Gordon
Monday, Dec. 28, 1931 "Some Facts About the Hum
Dr. Stuart Wilson

The WWJ broadcasts are in addition to the presentations of radio station WEXL, Royal Oak, over which the Wayne County Medical Society has been broadcasting three times per week since March, 1931. The hours at WEXL are from 10:30 to 10:45 A. M. The wave length of WEXL is 1310.

The Wayne County Medical Society has made an arrangement with the Detroit Police Department so that physicians called out on suspicious cases at night are accorded police protection. Physicians merely call police headquarters and a scout car is dispatched to escort the doctor to and from the call.

The Highland Park Physicians Club will hold its Annual Clinic in the Highland Park General Hospital on Saturday, December 5, 1931. Distinguished lecturers from many parts of the United States will present papers throughout the morning and afternoon sessions. The evening session will be held in the club rooms of the Wayne County Medical Society. Members of the State Society are cordially invited. No registration fee.

Postgraduate conferences on tuberculosis are being held at Herman Kiefer Hospital, Detroit, every Wednesday at 10:00 A. M. under the auspices of the Public Health Committee of the Wayne County Medical Society in coöperation with the Detroit Department of Health. Dr. Henry S. Willis, formerly of Johns Hopkins University School of Medicine, and now with the staff of Maybury Sanitarium, is presenting the lectures. They are preceded by ward walks. All members of the State Society are invited to attend these interesting conferences.

Dr. H. A. Luce, delegate to the American Medical Association from Michigan, has been appointed as a Trustee of the Wayne County Medical Society, to fill the place left vacant by Dr. George Van Amber Brown.

The annual Thanksgiving family dinner was held in the cafe of the Wayne County Medical Society on November 25, the day before Thanksgiving, 11:30 A. M. to 2:30 P. M. Some two hundred physicians attended this dinner, offered annually by the House Committee during the Thanksgiving season.

Members of the State Society are cordially invited to take advantage of the cafe of the Society when they are visiting in Detroit.

"Less than a Dime a Day—Brings You These Advantages" are the opening words of a circular which has just been published by the Wayne County Medical Society. The pamphlet lists the advantages of membership in the organization. It has been mailed to all members and prospective members of the Association. Copies may be had upon request.

Dr. John Erdmann of New York City will address the Detroit Academy of Surgery in the Book Cadillac Hotel, December 10, 1931. His address will be preceded by a dinner.

The American Medical Association plan to provide medical care for veterans was set forth in The Bulletin of the Wayne County Medical Society of November 3. Dr. Angus McLean, a member of the Legislative Coöperative Committee of the American Medical Association working with the American Legion, outlined how the A. M. A. plan would save hundreds of millions of dollars of American taxpayers' money. His article stated that every local community would materially benefit by the provisions suggested in the A. M. A. plan.

THE DOCTOR'S LIBRARY

GYNECOLOGY AND UROLOGY FOR NURSES. By Samuel S. Rosenfeld, M.D., F.A.C.S., Adjunct Obstetrician and Gynecologist Lebanon Hospital, New York City; Lecturer in Obstetrics and Gynecology to Lebanon Hospital School for Nurses; Diplomate of the American Board of Obstetrics and Gynecology. New York: William Wood and Company. 230 pages. Price $2.00.

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 15, No. 2. (Philadelphia Number—September, 1931.) Octavo of 303 pages with 37 illustrations. Per Clinic year, July, 1931, to May, 1932. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1931.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 11, No. 4. (Mayo Clinic Number—August, 1931.) Octavo of 211 pages with 74 illustrations. Per clinic year, February, 1931, to December, 1931. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1931.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 11, No. 5. (Pacific Coast Surgical Association Number —October, 1931.) 279 pages with 109 illustrations. Per Clinic year (February, 1931, to December, 1931.) Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1931.

GONORRHEA IN THE MALE AND FEMALE. By Percy S. Pelouze, M.D., Associate in Urology and Assistant Genito-Urinary Surgeon at the University of Pennsylvania; Fellow of the Philadelphia College of Physicians, Philadelphia, Pa. Second Edition, Revised. 440 pages with 92 illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, $5.50 net.

The second edition of this worthy book has reached us. The part in relation to Gonorrhea in the Male is not much changed. Part one of this division is given over to diagnosis and treatment in a very interesting didactic manner. Part two is a narration and analysis of forty-eight case histories. These latter lack the humdrum of the usual case history telling but have a very definite lesson with suggestive treatment appended. Part three constitutes the management of Gonorrhea in the Female. The whole book of 340 pages is interestingly compiled and holds the attention of the reader. The cuts and diagrams are well shown, while the print and paper are the usual good type of this Company.

H. W. Y.

MAYO CLINIC MONOGRAPHS—PROCTOSCOPIC EXAMINATION AND TREATMENT OF HEMORRHOIDS AND ANAL PRURITUS. By Louis A. Buis, B.A., M.D., F.A.C.S. Section on Proctology The Mayo Clinic, Rochester, Minnesota, and Associate Professor of Surgery The Mayo Foundation, University of Minnesota. pp. 178 with 72 illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Price $3.50.

This little monograph undoubtedly will find a place in the library of many physicians. It is timely and fills the need for a small book devoting most of its attention to diagnostic methods and the treatment of two of the ano-rectal diseases most frequently met with. The author describes, in his own words, his own way of handling these patients. In the chapters on examination more detailed methods of examination rather than so many illustrations of instruments and apparatus would have made it even more valuable. The figures 7, 9 and 10 illustrating the positions suitable for proctologic examination are somewhat in conflict. This, however, does not detract from the many other interesting and valuable points in this little monograph.

L. J. H.

THE NURSE'S MEDICAL LEXICON. For the use of graduate and student nurses, of premedical and dental students, and of the general public. By Thomas Lathrop Stedman, A.M., M.D. Editor of the "Twentieth Century Practice of Medicine," of the "Reference Handbook of the Medical Sciences," and of "A Practical Medical Dictionary"; formerly editor of the "Medical Record." New York: William Wood and Company. Price, $2.00.

The medical profession has been familiar for a long time with Stedman's Practical Medical Dictionary. The larger work is standard and possesses so many desirable features that we can safely predict a demand for this smaller volume of 629 pages written for a class who prefer a shorter, more compact work. The Nurse's Medical Lexicon is attractively gotten up and is priced within the reach of everyone. We unhesitatingly recommend the work to those who prefer an abridged medical dictionary by a master lexicographer.

WILL THE PHYSICIAN PRESCRIBE THE DIET?

John Albert Marshall, San Francisco, believes that the diets that cause various degrees of hypoplasia of the teeth are those in which any one of several factors may be altered. Of these, among the most important seem to be the vitamins and the relation of the vitamins to various mineral constituents in the diet, notably calcium and phosphorus. It would seem that a useful method of applying the present knowledge of dietary research would be for the dentist to secure more cordial coöperation with the patient and the physician. Unfortunately, however, there are too many instances wherein this coöperation either is not sought by the dentist or is refused by either the patient or the physician. The latter situation deserves a free and open discussion in the hope that a solution of the problem may be reached. Until this point is attained, the dentist is thrown, so to speak, on his own resources and perforce must designate, at least in a general way, those changes in the diet which a study of the case seems to indicate. Recommendations on choice of food are frequently necessary and may be made by the dentist without assuming any responsibility. Any further instructions should be left to the medically trained man. Dietary prescription is a different matter. It is based on a careful study by the physician of many data, gathered both by laboratory and by clinical methods. The interpretation of these data and their application is the duty of the physician rather than of the dentist. But the clinical application of these facts becomes the joint duty of dentist and physician.—*Journal A. M. A.*

DIPHTHERIA TOXOID (DIPHTHERIA ANATOXIN-RAMON) IN INFANCY

Joseph Greengard, Chicago, vaccinated 117 infants, ranging in age from 4 days to 2 years, against diphtheria with two 1 c.c. doses of commercial diphtheria toxoid. Complete immunity, as measured by the Schick test, was obtained in 98 per cent of the infants. The appearance of immunity was quite rapid, a considerable proportion showing a negative Schick reaction two weeks after the second injection. Reactions were noted in only 2 of 147 cases; both of these were very mild. In a small group in whom the persistence of immunity was tested, one case occurred in which the Schick reaction turned positive six months after vaccination. Three cases of clinical diphtheria occurred during the period of investigation. One of these appeared in a vaccinated child with a succeeding negative Schick reaction. On the basis of his observations the author concludes that immunization against diphtheria, as measured by the Schick test, can be produced rapidly and safely in a high proportion of infants by the use of two 1 c.c. injections of diphtheria toxoid.—*Journal A. M. A.*

INDEX

AUTHOR'S INDEX

PAGE

Abt, Isaac A. 23, 585
Allen, N. M. 496
Altshuler, Ira M. 148
Amadon, Philip D. 96, 452
Amberg, Emil 135, 784
Amolsch, Arthur L. 743
Andersen, E. B. 693
Aronstam, Noah E. 28

Ballin, Max 64
Barkman, F. J. 83
Barnes, Don J. 949
Barnett, S. E. 150
Barney, Burton F. 374
Bartemeier, Leo Henry 521
Bates, La Mott F. 88
Battley, J. C. S. 344
Bell, Charles 786
Boldyreff, Ephraim B. 271
Brown, Ralph C. 491
Bubis, J. L. 418
Budson, Daniel 19, 23
Bunten, W. Andrew 445
Burgess, Charles M. 626
Burr, George C. 595

Camp, Carl D. 255
Campbell, Alexander M. 923
Capener, Norman L. 431
Chadwick, Henry D. 15, 22
Coller, Frederick A. 319
Cooksey, Warren B. 781
Cooperstock, M. 350
Corbus, B. R. 123
Cowen, Robert L. 291
Craig, Winchell McK. 814
Crane, A. W. 487
Currier, Fred P. 269
Curry, G. J. 24

Davidow, David 931
Davidson, E. C. 936
Davis, David B. 269
Dean, Alfred 439
De Gowin, Elmer L. 145
Donald, William M. 154
Doub, H. P. 72
Dovitz, B. 595

Eggleston, E. L. 835
Evans, William A. 329

Finnerud, Clark W. 577
Finton, Walter L. 3
Freund, Hugo A. 781
Furlong, Harold A. 688
Furstenberg, A. C. 770

George, Col. Edwin S. 622
Gordon, J. E. 937
Gurdjian, E. S. 508

Hardy, Faith F. 372
Hewitt, H. W. 129
Hufford, A. R. 267

Iglauer, Samuel 440

Jennings, Charles Godwin 919
Jensen, V. W. 274
Johns, Joseph 443
Judd, E. Starr 409

PAGE

Kamperman, George 686
Kantor, John L. 820
Kenning, J. C. 262
Kidner, F. C. 944
Knapp, Harry B. 591

Larkum, N. W. 90
Lashmet, F. H. 260
Le Duc, Don M. 169
Le Fevre, W. M. 87
Leiberman, B. L. 517
Lindemulder, F. G. 354

Malcolm, Russel L. 525
Martmer, Edgar E. 936
Maurits, Reuben 776
Maxwell, Frank 100
Menagh, Frank R. 6
Metzger, Harry C. 760
Meyers, S. G. 601
Miller, J. Duane 923
Morris, Harold L. 843
Mortensen, M. A. 616
Murphy, Frank J. 503

McIlvain, Edwin M. 606
McLean, Don W. 434
McClelland, Carl 131
McClintic, C. F. 285
McClure, Roy D. 356
McCoy, Ira Dean 77
McRae, Colin C. 319

Nelson, H. M. 680
Northrup, William 139

Olson, Willard C. 428

Parker, Walter R. 61
Peck, Willis S. 839
Penberthy, Grover C. 424
Perlis, H. L. 154
Pierce, James M. 691
Polozker, I. L. 148
Poncher, H. G. 258
Pratt, Helen 90
Pritchard, Stuart 506
Prout, Curtis T. 498

Riecker, H. H. 831
Robb, J. M. 1
Roche, Philip Q. 34
Ryan, Clarence A. 11

Saltzstein, H. C. 601
Sanderson, Susanne 339
Sandweiss, D. J. 601
Schneider, Harry A. 277
Schwartz, Louis A. 413
Sewell, George 92
Sharp, E. A. 927
Shepard, B. A. 22
Sicherman, Karl L. 453
Sisson, Raymond J. 142
Smeltzer, Merrill 680
Spero, Gerald D. 611
Stapleton, W. J., Jr. 155
Steere, W. C. 367
Steffensen, W. H. 702
Stein, Irving F. 675
Stellhorn, Chester E. 743
Stone, Ray C. 809
Swanson, Cleary 684

PAGE
Toshack, Clarence T. 673

Verity, Lloyd E. 619
Vis, William R. 829
Voldrich, Marie 11

Waddington, Joseph E. G. 25
Waldbott, George L. 367
Walters, Waltman 739
Webster, J. C. 615
Westervelt, H. O. 848
Whitney, E. L. 72
Whittaker, A. H. 512
Wilkins, Robert W. 669
Willits, Paul W. 697
Wilson, Walter J. 765
Wollenberg, R. A. C. 360

Yates, H. Wellington 931
Yoder, O. R. 275

CONTRIBUTED ARTICLES

Address at the 82nd Annual Opening Exercises of the Medical School, University of Michigan, Charles Goodwin Jennings, M.D., 919.
Anemia in Chronic Nephritis, Lloyd E. Verity, M.D., 619.
Anesthesia in Head and Neck Surgery: Various Types and Methods, Reuben Maurits, M.D., 776.
Anesthesia, Modern Trends In, Frank J. Murphy, M.D., 503.
Annual Meeting Michigan State Medical Society, Sept. 22, 23, 24, 1931, 644.
Anomaly, Intestinal, Revealed by Emergency Operation Following Motor Accident, Ira Dean McCoy, M.D., 77.
Appendicitis, Acute, Observations On: Factors Influencing Mortality, Frederick A. Coller and Colin C. McRae, M.D., 319.
Arterial Hypotension, M. A. Mortensen, M.D., 616.
Asthma, Bronchial, The Internist's Conception of, Frank R. Menagh, M.D., 6.
Atrophic Vulvitis and Carcinoma of the Vulva, Merrill Smeltzer, M.D., and H. M. Nelson, M.D., 680.
Avertin in Obstetrics and Gynecology, James M. Pierce, M.D., 691.

Behavior Disorders in Childhood and Their Relation to the Pediatrician, Louis A. Schwartz, M.D., 413.
Behavior Problems of School Children, Willard C. Olson, M.D., 428.
Birth Injuries, Intracranial, Incidence, Sequelæ and Treatment, C. F. McClintic, M.D., 285.
Blind Spot and Its Pathological Significance, The, Raymond J. Sisson, M.D., 142.
Blood Transfusion, A Note on, with an Account of a Fatal Reaction, F. J. Barkman, M.D., 83.
Bovine Tubercle Bacilli in Humans, On the Incidence of, Clarence A. Ryan, M.D., and Marie Voldrich, 11.
Bronchial Affections, The Use of Iodized Oil by the Sanatorium Physician in the Diagnosis of, Stuart Pritchard, M.D., 506.

Cesarean Section, Post Mortem, Report of Case with Living Child, Alexander M. Campbell, M.D., and J. Duane Miller, M.D., 923.
Cancer, Skin and Its Prophylaxis, R. A. C. Wollenberg, M.D., 360.
Cardiac Pain, Significance of, Hugo Freund, M.D., and Warren B. Cooksey, M.D., 781.
Chairman's Address, J. M. Robb, M.D., 1.
County Medical Societies in Legislative Activity, Responsibility of, A. H. Whittaker, M.D., 512.
Courses for Graduates, Detroit, June 15 to 27, 1931, 384.
Cutis Marmorata or Livedo Reticularis (Marble Skin) with Case Report, Noah E. Aronstam, M.D., 28.

Deaf Child and the Hard-of-Hearing Child, Emil Amberg, M.D., 135.
Dermoid Cysts of the Ovary, Harold A. Furlong, M.D., 688.
Diabetic, Surgical, The Management of the, Don W. McLean, M.D., 434.
Digestive Tract Anomalies, The Practical Significance of, John L. Kantor, M.D., 820.
Doctor's Log, The, W. J. Stapleton, Jr., M.D., 155.
Duodenitis, A. R. Hufford, M.D., 267.

Eclampsia—A Preventable Disease, F. B. Andersen, M.D., 693.
Eclamptic Pregnancies, An Analysis of Twenty-five Cases of, B. L. Lieberman, M.D., 517.
Embolus, Air, of Retinal Artery, Alfred Dean, M.D., 439.
Excretion Urography, G. C. Burr, M.D., and B. Dovitz, M.D., 595.

Foundations in Michigan as Related to the Profession of Medicine, R. C. Stone, M.D., 809.
Frontal Sinus Operations, Radical, H. O. Westervelt, M.D., 848.

Gallbladder Diseases, Diagnosis and Indications for Operation, Roy C. McClure, M.D., 356.
Gas-Bacillus Infection, J. C. Kenning, M.D., 262.
General Medicine, Progress in, William Northrup, M.D., 139.
Granulocytopenia, Agranulocytic Angina and Related Blood Dyscrasias, Chester E. Stellhorn and Arthur L. Amolsch, M.D., 743.
Group Practice of Medicine, The, Walter L. Finton, 3.

Head Mirror, The Large-Holed, Emil Amberg, M.D., 784.
Heart Disease in Rheumatic Fever, The Incidence of, Walter J. Wilson, M.D., 765.
Heart, The Damaged, In Industry, Edwin M. McIlvain, M.D., 606.
Hemorrhage, Subarachnoid, Occurring in Syphilis, F. G. Lindemulder, M.D., 354.
Hyperthyroidism, The Neurological Side of, Carl D. Camp, M.D., 255.
Hypothyroidism, Mild, Diagnosis of, William R. Vis, M.D., 829.

Ileus with Report of Two-Stage Operation, Harry B. Knapp, M.D., 591.
Infantile Paralysis Resulting From Poliomyelitis, Treatment of, F. C. Kidner, M.D., 944.
Intestinal Disorders—Necessity for Specific Diagnosis and Rational Therapy, E. L. Eggleston, M.D., 835.
Intestinal Obstruction, Gallstone, G. J. Curry, M.D., 24.
Intestinal Secretion, The Effect of Yeast Extract on, Ephraim B. Boldyreff, M.D., 271.
Intravenous Sodium Amytal, with Report of a Death, Philip D. Amadon, M.D., 96.
Intussusception of the Bowel with Overshadowing Neurological Symptoms: A Fatal Termination with Autopsy, Report of a Case, William M. Donald, M.D., and H. L. Perlis, M.D., 154.

Jejunal Ulcer, Postoperative, N. M. Allen, M.D., 496.

Kidney Function Tests, F. H. Lashmet, M.D., 260.
Kidney Infections in Pregnancy, Robert L. Cowen, M.D., 291.

Larynx, Carcinoma of, A. C. Furstenberg, M.D., 770.
Lipodystrophy, Progressive, Fred P. Currier, M.D., and David B. Davis, M.D., 269.
Locomotor Ataxia, Pyrifer in the Treatment of, I. L. Polozker, M.D., and Ira M. Altshuler, M.D., 148.

Mastoiditis, Bilateral Hysterical, Carl McClelland, M.D., 131.
Maxillary Sinus Disease, Further Studies in the Use of Iodized Oil (Lipiodol) in the Diagnosis of, With a Report of Two Hundred and Twenty-five Cases, E. L. Whitney, M.D., and H. P. Doub, M.D., 72.
Medical Economics, 406.
Medicine in Russia—As a Layman Sees It, Col. Edwin S. George, 622.
Medico-Legal Cases, Roentgen Findings as Evidence in, William A. Evans, M.D., 329.
Mental Hygiene Movement, The, O. R. Yoder, M.D., 275.
Mentally Deficient, The Training and Education of the, Harry A. Schneider, M.D., 277.
Minutes of the Mid-Winter Session of the Council of the Michigan State Medical Society, Jan. 21, 1931, 198.
Modern Medicine, The Achievements of, B. R. Corbus, M.D., 123.
Myxedema in Michigan, A Clinical Study of, H. H. Riecker, M.D., 831.

Nephritis, Chronic, in Children, M. Cooperstock, M.D., 350.
Nerve Injury, Two Unusual Cases of, E. S. Gurdjian, M.D., 508.

Oakland County Medical Society, 633.
Obstetrical Morbidity, Paul W. Willits, M.D., 697.
Obstetrics, The Relation of Pelvic Inclination, Lumbar Index, and Posture to, Clary Swanson, M.D., 684.
Obstructive Jaundice, Certain Principles in the Treatment of, Waltman Walters, M.D., 739.
Ophthalmic Conditions of Children in the Rural Parts of Michigan, Gerald D. Spero, M.D., 611.
Osteomyelitis, Acute, in Children, The Diagnosis and Treatment of, Grover C. Penberthy, M.D., 424.

Pain in Relation to Neurological Diagnosis, Curtis T. Prout, M.D., 498.
Pediatrics, Psychiatry In, Leo Henry Bartemeier, M.D., 521.
Peptic Ulcer: Experiences in the Treatment of 108 Cases, H. C. Saltzstein, M.D., S. G. Meyers, M.D., and D. J. Sandweiss, M.D., 601.
Peptic Ulcer, Medical Treatment of, Ralph C. Brown, M.D., 491.
Peptic Ulcer, The X-ray Diagnosis of, A. W. Crane, M.D., 487.
Physical and Economical Advantages of Gynoplastic Repairs for Old Lacerations, at or Shortly after Childbirth, The, J. L. Bubis, M.D., 418.
Poliomyelitis, Practical Problems in, J. E. Gordon, M.D., 937.
Pollen Asthma, Hay Fever and Pollen Dermatitis, The Treatment of, Based on a Pollen Survey of Detroit, George L. Waldbott, M.D., and W. C. Steere, M.D., 367.
Postnatal Care, Clarence Toshbach, M.D., 673.
Pregnancy, Vomiting of, Robert W. Wilkins, M.D., 669.
Proceedings, Annual Conference of County Secretaries of the Michigan State Medical Society, Michigan Union, Ann Arbor, Jan. 22, 1931, 217.
Proceedings of Special Meeting of Council of Michigan Medical Society, held at Detroit, May 19, 1931, Report of, 551.
Proceedings—111th Annual Meeting of the Michigan State Medical Society, 870.
Program, Official, 111th Annual Meeting, Michigan State Medical Society, Pontiac, Sept. 22, 23, 24, 1931, 715.
Protein Therapy in Gynecology, Non-Specific, H. Wellington Yates, M.D., and David Davidow, M.D., 931.
Pyeloscopy, Harold L. Morris, M.D., 843.
Retina, Detachment of the, The Gonin Operation for, Walter R. Parker, B.S., M.D., 61.
Ribs, Cervical, J. C. Webster, M.D., 615.
Roentgen Diagnosis in Gynecology and Obstetrics, Irving F. Stein, M.D., 675.

Secondary Anemia: A Preliminary Report on Stomach, E. A. Sharp, M.D., 927.
Sepsis in Infancy and Childhood, I. A. Abt, M.D., 585.
Serum Reactions, With Report of a Case, Elmer L. De Gowin, M.D., 145.
Sinusitis in Children, S. E. Barnett, M.D., 150.
Skin Diseases, Common, of Childhood, Diagnosis and Treatment of, Clark W. Finnerud, M.D., 577.
Soviet Russia, Medical Impressions of, Joseph E. G. Waddington, M.D., 25.
Spinal Block, Surgical Treatment of, Edgar E. Martmer, M.D., and E. C. Davidson, M.D., 936.
Staphylococcus Infections, Bacteriophage Treatment of, N. W. Larkum, M.D., and Helen Pratt, M.D., 90.
Suppuration, Deep, in the Pharynx and Neck as it Concerns the Laryngologist, Samuel Iglauer, M.D., 440.
Surgery, Sympathetic, A Discussion of the History of, W. Andrew Bunten, M.D., 445.
Sympathetic Nervous System, Surgery of the, Winchell McK. Craig, M.D., 814.

Thyroidism with Unusual Clinical Manifestations, Max Ballin, M.D., 64.
Toxoid as an Immunizing Agent Against Diphtheria, Results Obtained in the Use of, Don J. Barnes, M.D., 949.
Traction, Lower Leg, A Simple Device for Obtaining, Philip D. Amadon, M.D., 452.
Trichomonas Vaginalis Vaginitis, George Kamperman, M.D., 686.
Tuberculoma of Cerebellum, Report of a Case of, Faith F. Hardy, M.D., 372.
Tuberculosis Abstracts, 299.
Tuberculosis, Childhood, Newer Phases of, Harry C. Metzger, M.D., 760.
Tuberculosis in Children, Henry D. Chadwick, M.D., 15.
Tuberculosis of the Spine, The Diagnosis of, Norman L. Capener, M.D., 431.
Tuberculosis, Pulmonary, in Children, Diagnosis and Treatment of, Daniel Budson, M.D., 19.
Tuberculosis, Urogenital, A Modified Vernes Test as an Aid in Diagnosis, George Sewell, M.D., 92.
Tumor, Sarcomatous, of the Testicle, Case Reports, Joseph Johns, M.D., 443.

Ulcer, Gastric and Duodenal, The Surgical Treatment of, E. Starr Judd, M.D., 409.
Ulcer of the Colon, Simple Non-Specific, V. W. Jensen, M.D., 274.
Ultra-violet Radiation, Therapeutic Applications of, Willis S. Peck, M.D., 839.
Undulant Fever, W. M. LeFevre, M.D., 87.
Uterine Fibroids, Shall it be Radium or Surgery in the Treatment of, H. W. Hewitt, M.D., 129.
Uterus, Puerperal Inversion of the, La Mott F. Bates, M.D., 88.

Viosterol, Clinical Use of, H. G. Poncher, M.D., 258.

Whooping-Cough, The Prevention and Treatment of, J. C. S. Battley, M.D., 344.
Women in Medicine, Susanne Sanderson, M.D., 339.

DEPARTMENT INDEX

Communications

Pages 47, 187, 306, 392, 640, 801, 869.

County Society Activities

Alpena County, 116, 736.

Bay County, 57.
Berrien County, 53, 54, 116.
Branch County, 251.

Calhoun County, 53, 251.
Chippewa and Mackinac Counties, 404.
Clinton County, 978.

Dickenson-Iron Counties, 404.

Gogebic County, 57.
Grand Traverse-Leelanau County, 314, 315, 481, 805, 806.
Gratiot-Isabella-Clare County, 55, 56, 251, 252, 315, 404, 405, 482, 572, 573, 916, 917, 978.

Hillsdale County, 54, 252, 481, 482.
Hillside County, 917.
Houghton County, 252.

Ionia-Montcalm County, 54, 55, 116.

Jackson County, 56, 57, 116, 317, 482, 573, 978.

Kalamazoo Academy, 56, 116, 117, 482, 483.

Lapeer County, 251.
Luce County, 54.

Macomb County, 979.
Manistee County, 117, 483, 573.
Marquette-Alger Counties, 405.
Mecosta County, 117, 252, 253, 315, 483, 667, 806.
Midland County, 117, 252.
Monroe County, 54, 117, 405.
Muskegon, 405.

Newaygo County, 117, 315, 316.

Oakland County, 55, 315.
Ottawa County, 405.

St. Clair County, 117, 316.
St. Joseph County, 118.
Saginaw County, 316.
Sanilac County, 978.
Shiawassee County, 917.

Upper Peninsula Medical Society, 573, 574, 806.

Wayne County, 57, 118, 316, 317, 405, 406, 483, 484, 574, 667, 668.

Deaths

Dr. Fred W. Baeslack, 544.
Dr. C. B. Burr, 381.
Dr. C. C. Clancy, 544.
Dr. Michael C. Cronin, 800.
Dr. Calvin R. Ellwood, 867.
Dr. H. A. Hagerty, 472.
Dr. William Blakeway Hanna, 306.
Dr. Joseph Hathaway, 544.
Dr. Harry W. Knapp, 867.
Dr. E. J. Marshall, 113.
Dr. E. L. Parmeter, 967.
Dr. Otto Lee Ricker, 796.
Dr. Walter Hulme Sawyer, 537.
Dr. George K. Sipe, 113.
Dr. Stuart Morton Stuber, 867.
Dr. Frank Burr Tibbals, 472.
Dr. George S. Tweedie, 714.
Dr. Aldred Scott Warthin, 544.

Doctor's Library

Pages 59, 120, 254, 318, 407, 485, 575, 668, 737, 807, 918, 979.

Editorial Department

Addison's Disease, 711.
American Medical Association, The, 183.
Anesthesia, Spinal, 45.
Annual Meeting, The, 637.
Annual Meeting, The 111th, 861.
Antivivisection, 41, 793.
Aschheim-Zondek Method for the Early Diagnosis of Early Pregnancy, The, 864.
Automobile Accidents, 712.
Automobile Accidents a Liability to Medicine, 108.
Bargains in Living Flesh, et al, 112.
Beaumont Lectures, The, 112.
Cancer, 303.
Child Welfare Conference, 108.
Colds, Common, 44.
Detroit Free Press, Congratulations, 468.
Diagnosis, Ultra-Refinements in, 387.
Doctor's Bills, A Moratorium on, 45.
Doctors' Incomes, Detroit, 464.
Doctors Will Follow, 793.
Do Not Let Your Membership Lapse, 862.
Do the Sires Live in the Sons? 793.
Dr. J. D. Bruce, Vice President of the University of Michigan, 960.
Dr. Charles Godwin Jennings Honored, 959.
Dr. Peterson Honored, 181.
Dr. Richard R. Smith, Regent, 467.
Dr. Frank Burr Tibbals, 467.
Editorial Notes, 390, 685.
Education, 543.
Faraday, 961.
First Aid vs. Practice of Medicine, 304.
Gastric Acidity, Normal, 639.
Good Fellows Get Together, 467.
Governor's Address, The, 863.
"Graves, Worms and Epitaphs," 43.
Grievance Committee, A, 863.
Gynecologic and Obstetric Number, A, 710.
Heart, the Damaged, In Industry, 639.
Hepato-Lienography, 302.
History of Science a Neglected Subject, 709.
Hornbogen, Alfred W., 796.
How It Is After Great Wars, 640.
If—, 109.
If not Charity What is it? 184.
Important Warning, An, 303.
Indigent Sick, Care of the, 181.
Infantile Paralysis, 799, 865.
Instruction, Post-Graduate, 469.
Insurance Certificates, 388.
Inviting Liability, 185.
Iron Law of Wages, The, 865.
Is State Medicine a Solution? 109.
Laboratory Again, The, 42.
Malpractice, 710.
May County Medical Societies Practice Medicine? 44.
Medical History of Michigan, The, 390, 795.
Medical History of Michigan, Volume II of the, 107.
Medical Graduates, 466.
Medical Insurance, 388.
Medical Knowledge Grows, 389.
Medicine and Its Codependents, 864.

Medicine, Culture in, 463.
Medical Russia, A Layman's View of, 637.
Medicine, Post-Graduate, 385.
Medicine, Post-Graduate Courses in, 107.
Moll, President Carl F., 794.

Nephrosis, 385.

Occupational Diseases, 302.
Oldest Book in the World, The, 797.
Optimist, An, 185.

Passing of Dr. Burr, The, 387.
Policies Defined, 540.
Post-Graduate Medicine, 304.
President's Greetings, The, 41.
Privileged Communications, 301.
Profession, The Great Silent, 541.
Progress, 962.
Public Health Education, 638.

Quinine, The Tercentenary of, 183.

Reminiscence, 964.
Ricker, Otto Lee, 796.
Robb, Dr. J. Milton, President-Elect, 862.

Samthing Wrang Wi Thae Free Clinic, 46.
Sawyer, Walter Hulme, 537.
"Schools," So-called, An Attempt to Legalize, 389.
State Medicine Idea, One Effect of the, 796.

Ten Dollar Obstetrics, 794.
To Contributors, 541.

Unemployment and the Medical Profession, 542.
Unemployment Insurance, 638.
Uplifter, The, 43.
Uses of Adversity, The, 961.

Vacation, 542.

Warthin, Aldred Scott, 539.
Why Newton? 182.
Writing Medical Papers, 465.
X-ray in Gynecology and Obstetrics, The, 712.

Famous Men in Medical History

Zabdiel Boylston, Early American Medicine and, Dr., W. H. Steffensen, M.D., 702.
Benjamin Franklin and the Founding of the Pennsylvania Hospital, Russel L. Malcolm, M.D., 525.
Oliver Wendell Holmes, Philip Q. Roche, M.D., 34.
Ephraim McDowell and Early American Surgery, Karl L. Sicherman, M.D., 453.
Silas Weir Mitchell—His Contribution to Early American Neurology, Louis F. Knoepp, M.D., 851.
John Morgan, Burton F. Barney, M.D., 374.
Sir William Osler, An Appreciation of, Don M. Le Duc, M.D., 169, 293.
William Pepper, William A. Sodeman, 950.
Philip Syng Physick—"Father of American Surgery," Charles Bell, M.D., 786.
Walter Reed, Frank Maxwell, M.D., 100.
William Shippen, Junior, and the Early Development of American Obstetrics, Charles M. Burgess, M.D., 626.

Interest, Of General Medical and Surgical

Pages 40, 106, 179, 535, 707, 791, 918.

Michigan's Department of Health

C. C. Slemons, M.D., 30, 97, 176, 378, 460, 533, 635, 790, 858, 956.

Miscellaneous

Dr. Aristides Agramonte as I Knew Him, 966.
Medical Care of Veterans in Local Hospitals, 965.

News and Announcements

Pages 48, 114, 188, 307, 393, 470, 545, 642, 714, 868, 968.

Woman's Auxiliary

Pages 58, 118, 175, 253, 317, 406, 484, 575, 736, 917.

The Secretary of the Society will please notify the State Secretary immediately of any errors or change in these offices.

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OCEANA	W. L. GRIFFIN	Shelby	F. A. REETZ	Shelby
O. M. C. O. R. O.: OTSEGO, MONTMORENCY, CRAWFORD, OSCODA, ROSCOMMON, OGEMAW	L. A. HARRIS	Gaylord	C. C. CURNALIA	Roscommon
ONTONAGON	C. F. WHITESHIELD	Trout Creek	E. J. EVANS	Ontonagon
OTTAWA	WM. TAPPAN	Holland	W. B. BLOEMENDAL	Grand Haven
SAGINAW	A. E. LEITCH	Saginaw	W. K. ANDERSON	Saginaw
SANILAC	D. D. McNAUGHTON	Argyle	S. M. TWEEDIE	Sandusky
SCHOOLCRAFT	A. R. TUCKER	Manistique	GEORGE A. SHAW	Manistique
SHIAWASSEE	GLENN T. SOULE	Henderson	W. E. WARD	Owosso
ST. CLAIR	J. E. WELLMAN	Port Huron	REGINALD SMITH	Port Huron
ST. JOSEPH	G. J. SWEETLAND	Constantine	R. A. SPRINGER	Centreville
TRI-COUNTY: WEXFORD, KALKASKA, MISSAUKEE	G. DEVERE MILLER	Cadillac	J. F. CARROW	Cadillac
TUSCOLA	N. J. MALLOY	Gagetown	W. A. CROOKS	Wahjamega
WASHTENAW	JOHN SUNDWALL	Ann Arbor	T. S. LANGFORD	Ann Arbor
WAYNE	H. W. PLAGGEMEYER	Detroit	E. D. SPALDING	Detroit

THE JOURNAL

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Minutes

of the

Joint Session of the Legislature of the State of Michigan

Convened at 4:00 P. M., April 14, 1931

TO HONOR

Frederick G. Novy, M.D.
Moses Gomberg, Sc.D.
Reuben L. Kahn, M.D.

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INTRODUCTION

Pursuant to a resolution introduced in the Senate by Senator J. H. Upjohn, and concurred in by the House, the Senate and the House met in joint session on April 14, 1931. The minutes of that joint session are here recorded and are published as a permanent record in order that this unusual tribute to distinguished scientists may be preserved.

Minutes of the Joint Session of the Legislature of the State of Michigan

CHAMBER OF HOUSE OF REPRESENTATIVES

April 14, 1931

4:00 P. M.

Lieut. Governor Dickinson: We will now come to order and listen to the invocation by the Reverend Edwin W. Bishop, Pastor of the Plymouth Congregational Church of Lansing.

Reverend Bishop: Oh God, Thou Great Heart and Center of the Universe, Supreme Intelligence, Thou hast been, through the ages, rolling fire mists into planets and unrolling into law and order primitive chaos, and it is fitting that we stand before Thee and pause for a moment in respect and honor of Thy ever-working Intelligence.

And we believe that it is fitting and proper that we should honor as men who think Thy thoughts after Thee and do Thy deeds after Thee, every patient historian, every delegation of scientists, every constructive chemist, every artisan that labors honestly at his task, every one who gives birth to new thoughts, and we believe that as we meet here in this center of government for this purpose this afternoon in honor of the sons of Michigan who have here accomplished something, that we will do well to make their lives originate and establish these torches of inspiration that give fire, Divine fire, from personality to personality. We believe that this will make our State great, and that what shall make our State greater is not its copper or its woods, but its men, Divinely inspired men who work after Thee.

Lives of great men all remind us
We can make our lives sublime,
And, departing, leave behind us,
Footprints on the sands of Time.

In the name of the great working, ceaselessly benevolent Creator, Amen.

Lieut. Governor Dickinson: The Secretary of the Senate will call the roll.

Secretary of the Senate Chase: Mr. President,, Twenty-nine senators are present, a quorum.

Speaker Pro Tem Dacey: The clerk will call the roll of the House.

Clerk of the House Gray: Mr. Speaker, ninety-three members of the House are present, a quorum.

Mr. Watson moves that a special committee, consisting of two Representatives and one Senator be appointed to invite and escort the Justices of the Supreme Court to the joint convention.

Lieut. Governor Dickinson: The question is on the adoption of the Resolution; all those in favor will signify by saying aye.

Unanimously carried.

Lieut. Governor Dickinson: I shall appoint on that committee Representatives Watson and Campbell, and Senator Horton.

Clerk of the House Gray: Mr. Culver moves that a special committee consisting of two representatives and one senator be appointed to invite the State Officers to be present at the joint convention.

Lieut. Governor Dickinson: The question is on the adoption of the Resolution: All those in favor will signify by saying aye.

Unanimously carried.

Clerk of the House Gray: The President of the joint convention names upon such committee Representatives Culver and Osborn and Senator Campbell.

Secretary of the Senate Chase: Senator Bonine moves that a special committee consisting of two senators and three representatives be appointed to escort the Governor and his guests to the convention.

Lieut. Governor Dickinson: The question is on the adoption of the Resolution; all those in favor will signify by saying aye.

Unanimously carried.

Secretary of the Senate Chase: The President of the joint convention names on such committee Senators Bonine and Rushton, and Representatives Frey, Read and McEachron.

Lieut. Governor Dickinson: The committees will perform their duties.

Arrival of State Officers at 4:18 P. M.

Arrival of the Members of the State Supreme Court at 4:20 P. M.

Arrival of the Governor and his Guests at 4:23 P. M.

Lieut. Governor Dickinson: Governor Brucker will announce the purpose of the convention and call upon the guests to appear before you.

GOVERNOR BRUCKER

Hon. Wilber M. Brucker: Lieutenant Governor Dickinson, Mr. Speaker, Members of the House and Senate, Distinguished Guests, and Ladies and Gentlemen:

About two months ago, Dr. Upjohn of Kalamazoo, a Member of the Senate, first suggested that it would be altogether fitting and proper that a joint convention of the House and Senate be called for the purpose of honoring, at that time, some of the scientists of Michigan who had contributed largely to their day and generation.

The idea immediately bore fruit, gained ground and became extremely popular; members of the House and Senate, in large numbers, expressed their approval, and spontaneously this grew in the House and Senate until the executive office was approached on the matter and approval was readily given.

The meeting today is a result of that germ of an idea to honor scientists, and the purpose of this joint convention is to make incarnate, to make the personality of these men here who are the three honored guests today, who are the personification of science honored high as Michigan's contribution and our honor to them is in this convention and the tribute we pay.

The guests who are here are many. Those who have seen fit to honor this legislature and the rest of us public-spirited persons from outside are, some of them, grouped on the platform; others are grouped around

in front; others in the balconies and other places in the building are interested, likewise, in this ceremony.

I take the liberty at this time to present a few of them at random. I shall not, of course, be expected to call on all, except to have them rise and be known.

Mr. Henry Ford, of Dearborn, Michigan. (Applause.) Mr. Ford confidentially communicated, just a few moments ago, before we came in, something, of course, which he does not wish anybody to know, as that would be advertising to do it—that he personally drove off the twenty-millionth car this morning. Is that right, Mr. Ford?

Mr. Henry Ford: Yes, Your Excellency.

Governor Brucker: In addition to those who are to be introduced rather formally for a few remarks, there are members here from the staff of the University of Michigan and their wives and friends, and they are seated around in front here with the Regents.

I wish to present at this time Regent Cram. (Applause.)

Regent Sawyer. (Applause.)

Regent Beal. (Applause.)

There are also here present from the University Doctor Haynes (applause); Mrs. Novy, wife of Dr. Novy (applause); Coach Hurry-Up Yost (applause); Dr. Bruce (applause); Shirley Smith (applause); Dr. Yocum (applause); and if I have overlooked any in the group from the University, they shall be presented in just a moment.

I have overlooked Dr. Huber (applause); also, Mrs. Kahn, wife or Dr. Kahn, who is here (applause); and the two little Kahnnettes (applause).

In ancient days there were plenty of the elder and younger. This is Dr. Novy, the younger (applause); Mrs. Gomberg (applause).

Now I think the party which is composed of those in addition to the State Officers, Members of the Supreme Court and others gathered around here at the invitation of the House and Senate, is complete.

The purpose of this gathering having been made known in the sense that this is to honor science in the person of three eminent scientists, I shall take the liberty at this time to introduce to you the President of the University of Michigan for an address—Dr. Alexander Ruthven. (Applause.)

PRESIDENT RUTHVEN

Dr. Alexander Ruthven: It is customary to think of Universities as places of instruction. This conception, as many educators realize, is incomplete. These institutions, it should never be forgotten, have two major objectives—one the instruction of our youth; the second, investigation or research. In other words, the increase of knowledge. We sometimes shorten that and say that Universities have two objectives, or the diffusion of knowledge and the increase of knowledge.

Knowledge is increased, as I have said, by research, which means simply investigation, study, the search for facts, principles and relationships.

Researches in Universities are usually carried on without any thought of material reward for the investigator. However, they generally contribute, ultimately at least, to the health, comfort and happiness of humanity.

Mr. Ford's automobile, in this case; antitoxin, electric lights, radio, ice machines and those other accessories of civilization are the product of research.

Not only is investigation being carried on in Universities, as we very readily understand, but a considerable amount is being done in these institutions and the amount which is being carried on in the higher schools is increasing both actually and proportionately. The University is not only doing much for humanity in its shops, hospitals, laboratories and museums, but it is one of the great schools which believes in making the results of the study of its scholars available to the people of the State just as soon as possible.

As evidence of this desire to be of service to the commonwealth, I might site institutes for research being built up on the campus: The Bureau of Business Research, Bureau of Forestry Research, Bureau of Fisheries Research, Simpson Memorial Hospital; but in addition to these units almost every department is making contributions of direct or indirect benefit to our citizens of the state.

Today, I am presenting to you one of your intellectual giants. He is typical of a group of modest, earnest public servants

whom the world has acknowledged but who has only asked that he be allowed to work quietly with all of his talents for the good of society.

I might introduce this man by giving some account of what he has done, but this would take too long. I might introduce him in a more formal way, as a Bachelor of Science of the University of Michigan, 1886; Master of Science, 1887; Doctor of Science in 1890; Doctor of Medicine, 1891; Doctor of Laws of the University of Cincinnati, 1920; a special student at the Hygienic Institute in Berlin in 1888; at the Pathological Institute at Prague in 1894; at the Pasteur Institute in Paris in 1897.

Assistant in Organic Chemistry, University of Michigan, 1886-87; Instructor of Hygiene and Physiological Chemistry, 1887-1891; Assistant Professor, 1891-93; Junior Professor, 1893-1902; Professor of Bacteriology, 1902- ; Director of the Hygienic Laboratory 1909; Director of Pre-Clinical Medicine and Chairman of the Executive Committee of the Medical School from 1930.

A man prominently associated with the establishment of the first laboratory for water analysis in this State, which brought about pure water supply for the people and with the establishment of the first Pasteur Institute in this country for the treatment of rabies; a member of the State Board of Health for many years, during which time there were drafted the existing laws governing public health in the State which have been a model for the country; a member of the United States Commission to investigate Bubonic Plague in California in 1901, and the National Research Council; Honorary President of the Hygiene Section of International Medical Congress, Moscow, 1897; Vice President of the Pathological Section of the International Tuberculosis Congress in 1908; Vice President of the Tropical Medicine Section of the International Hygiene Congress, 1921; a member of the National Academy of Sciences; Vice President in 1910 of the American Association for the Advancement of Science; President, 1904, of the Bacteriologists Society; a member of the Physiology Society; a member of the Society for Experimental Society of American Physicians; Council member of the Division of Pharmacology and Chemistry of the American Medical Association; a member of the Society for Experimental Biology; a member of the Association of Pathology and Bacteriology; the Society of Biological Chemistry, and the Society of Pharmacology; President, 1924, of the Association of Immunology; President, 1910, of the Michigan Academy of Science, Arts and Letters; Vice President, 1898, of the Michigan Medical Society; Honorary Member of the Philadelphia Pathological Society and the Harvey Society; Associate Member of the Societe de pathologie exotique, Paris; Associate Member of the Societe royale des sciences medicales et naturelles, Bruxelles; Corresponding Member of the Societe de Biologie, Paris; Chevalier, Legion de Honneur.

Gentlemen, I have the honor to present to you, Dr. Frederick G. Novy. (Applause.)

DR. NOVY

Dr. Frederick G. Novy: Gentlemen and Ladies: I need hardly to say that an occasion like this is one that is rather trying for the individual. I was told that we were to meet with the legislature—I imagined the legislature to be somewhat after the fashion that it used to be in the old days, a small room where we might get together, but I am somewhat nonplussed and surprised to find that this great hall is so filled and overflowing.

I have been told to say something about research. It is not possible to convey very much of an idea as to what that word means. A scientist may be engaged in his daily job; he may be looking after an item that seems to be very uniform in the average individual, but it is something that he has a vital interest in on which he devotes all his time and thought, perhaps to the neglect of his family.

In scientific work, research work, the things that are done and accomplished as a rule do not appear before the public eye in the way that the achievements of applied science in industry appear.

It is within the memory of most of you that are here, the appearance of the telephone and the phonograph; the appearance of a dynamo and electricity; the appearance of the automobile, the airplane, the movie and the talkie and the radio, television at the moment. Those are things which crystallize before the eye, before the touch and before the hearing, but that is not always

the case with scientific work, which is carried on and has to be carried on in the seclusion of laboratories, away from the hum and noise and agitation that comes from other things.

I might recall how Benjamin Franklin, standing in the garden of his home in *Passail,* outside of Paris, witnessed the first balloon ascend. At that time some one remarked to him: "Of what use is that thing," and his answer, well known to many of you, was: "What use is a new-born child?" Time can only tell and so it has been the story written high and large regarding scientific work.

Not so many years ago, Pasteur was busy studying the germs causing fermentations. Anyone could have approached him then and said: "Of what use is it to study this little organism that you find under your microscope?" I can well conceive a shrug of the shoulders and a brief response: "Wait and see," and it was not many years perhaps that was realized.

A young Scotch surgeon saw through the work that was being carried on in the Latin quarter of Paris; he saw something that was of significance to him, and that Scottish man *Lister* introduced the first attempt in which man tried to avoid some of the evil consequences that were bound to occur in surgical work, that had always been with the surgeon. He introduced the procedure then known as *antiseptic* surgery, a procedure ridiculed by all his associates and he, himself, all but ostracised because he departed from the traditional methods that had been taught and carried from time immemorial, but the wheels were moving along and it was not before long when antiseptic surgery, the old-fashioned kind, gave way to modern *aseptic* surgery and as a result of that, whether everyone knows it or not, the fact is that the surgeon today can carry on work that was absolutely impossible before the days of those early studies of Pasteur on fermentation. Those two men have earned the undying gratitude of all mankind.

While Bell was perfecting the first steps in the telephone of today, Pasteur and *Koch* were carrying on investigations of the organisms causing disease. One by one the causes of disease have been revealed in these last forty or fifty years. We can mention tuberculosis, leprosy, typhoid fever, chorea, dysentery, pneumonia, meningitis and a score of other diseases—one by one, they have been forced to yield up their secret. The shackles of ignorance which held man from the very birth date of his existence were shattered when these causes of disease were recognized; for the first time, man was able to institute proceedings tending to prevent and tending to cure the diseases of man and animal.

The result of research—it is not still of a spectacular kind, but of the quiet kind but, one by one, these diseases have yielded up their secrets. It is a long way before the end will be reached; much work remains to be done.

It will be fifty years next month when, in an open field outside of Paris, a public demonstration was carried out on the vaccination against anthrax. Pasteur had labored and worked out the research side of that matter; he knew what he would get but such was the attitude of the mass of the people, of all those who claimed to know anything about it, that he had to produce a public demonstration, and there were gathered skeptics and what not—anything but a sympathetic audience—and there was performed one of the first crucial experiments that should be known and carried on through time to come because it opened up a bigger aspect for the prevention of human diseases and suffering. In that particular experiment, twenty-five sheep were inoculated with vaccine that he had prepared, and a few weeks later these same animals were reinoculated with the virulent organism and, at the same time, an equal number of animals were inoculated with the same virulent organism as a control, as we call it. An experiment that is not controlled is absolutely worthless, and one of the hardest and most difficult things that a teacher can convey to anyone is the necessity of over-riding his own impulses, his own desires and his own wishes and to make the experiment a controlled one which will leave no question about the outcome and so in that historical experiment at *Milan* these animals were inoculated with virulent organism and within a few days the controlled animals, the inoculated animals, died off, and not one of the others showed the slightest effect—the first time in the history of man, for we accepted vaccination when man showed his ability to conquer disease that had been ex-

isting and threatening mankind from the beginning of history.

Two or three years later, Pasteur extended his research to the study of human diseases, and he selected one that was of the dread variety because there is nothing more that repels man than the disease of hydrophobia, and here applied the same principles which he found held true of previous work. He was able to go through similar tests and show the prevention of disease was possible and so things moved. One after another, came the discovery of vaccination for this and that disease.

In the late war, four million men were under arms and yet, in spite of that enormous aggregation of men, typhoid fever was practically negligible in the army. Had it not been for the vaccination procedure which was developed ten years before that, it is quite certain that America would have paid sacrifices similar to those which occurred during the Spanish war.

It was my good fortune, in 1894, to be present at an international congress at Budapest when a disciple of Pasteur presented the results of his work on the treatment of diphtheria. He had previously worked out the existence, the production, of a poison by that germ. The workers in Germany had discovered antitoxin, but it remained for Rue to apply on a new or old scale that remedy to the treatment of that disease in children.

At that meeting, at which scientific men from all parts of the world were gathered, you can readily imagine the enthusiasm, the acclaim which came when here, for the first time in the history of man, a disease like diphtheria was shown to be controllable, to be curable, as a matter of fact, and, since that time, research has been carried in this and that direction so that we have many diseases that are very effectively controlled—but I must not dwell entirely on the aspect as presented by pure bacteriology.

There is another aspect which I would like to call your attention to and that is this: it was supposed and believed that bacteria caused disease by contact; by being taken in water and the like. It never dawned until the right time came that there was another mode by which organisms could enter the body. Forty years ago, Smith in this country, by painstaking research, demonstrated that Texas fever in cattle was transmitted through the bites of ticks. That was something that had never been dreamed of before; that an insect could be responsible for a disease. It was so unusual that the scientists of Europe simply considered it an American way of pulling the wool, but it was not more than a half-dozen years, when the work of Ross in India showed that the malarial organism carried on its whole life history in the mosquito and that malaria could not be contracted except through the bites of mosquitoes.

And then came our own contribution in this country when, after the Spanish war, an army commission, with Walter Reed at the head, investigated yellow fever and showed that it was due exclusively to the bite of an infected mosquito.

The United States went down to Panama —they proceeded to dig; they put officers in charge of sanitary measures. Malaria and yellow fever were promptly held in check, and I may say, since 1906, the first year of occupation by the American workers in the Isthmus, there has not been a single case of yellow fever in one of the worst yellow fever spots of the world as it had been before. Research had wiped out one of the deadliest foes of the warm countries and it is because of this conquest that the United States succeeded where France had failed, by controlling the insect carriers of those diseases.

There is just one more aspect to which I wish to call attention very briefly, and that is in medical science, research work in medicine, it is necessary to utilize all the forces of the sciences proper that are available. For that reason, medical science, the practice of medicine, rests upon anatomy, histology and embryology; it rests upon bacteriological chemistry, pharmacology, pathology, bacteriology, and, so on, each and every one of those sciences is a contributary to the sum total of human knowledge and medicine profits by utilizing such work.

In 1887, the legislature of Michigan appropriated a modest sum of money for the establishment of the first hygienic laboratory in the United States. I take this occasion, particularly, to express my appreciation of that fact. It is the first institution, as I have said, of this kind. The idea was that of Dr. Vaughan, who at that time was a member of the State Board of Health, and it is significant that the reasons for the

establishment of that scientific laboratory were put down, first, research into the causation of disease; second, examination of waters and other materials to aid in the diagnosis of disease, and, third, that of teaching. Research was given the first prominent position. The University has endeavored to live up to that proposition. It will always hold that as its first objective.

The framers of an ordinance of one hundred thirty-odd years ago, under which the northwest territory was organized, inserted in that document words to this effect: that schools and means of education shall forever be encouraged. They did not think altogether in terms of the little red brick school house. They had their ideas and could see and vision that another era was coming.

I am happy to think that, in many ways, this has come about. I have taken up too much of your time. I want to express again my very sincere appreciation for the courtesies that you have shown me. I thank you. (Applause.)

Dr. Ruthven: It is my very great pleasure to present to you, first, my very dear friend and associate for many years—we have grown up side by side, as it were, in the University. His work has been along different lines from what mine has been, but he has accomplished vastly more than is possible to mention or say anything about. I am sure he would not want me to say too much, because I know there is not another man who has more modesty than my friend has, but I wish simply to say this: that if you were to take a census of the chemists in this country, you would find that his name is in the front ranks. He has been honored as the recipient of the Nicholls medal of the Chemical Society, and of that, the rarest of medals, the Willard Gibbs medal and, still more, he has received the unusual and extraordinary honor of being the President of the American Chemical Society, one of the largest scientific bodies in the world, Professor of Organic Chemistry, and Director of the Chemical Laboratory in the University. I therefore take very great pleasure in presenting to you at this time Dr. Moses Gomberg. (Applause.)

DR. GOMBERG

Dr. Moses Gomberg: I have very little to add to the benefits of research that have come to all of humanity. It is a privilege any one of us teachers have that we can, in addition to our daily duties, take at least a little time to assist the authorities of the University. Of course it means by the grace of the State authorities that we have the privilege to carry on this independent research work.

I take this opportunity to express my own great obligation to the University and to the State that supports the University. (Applause.)

Dr. Ruthven: As you know, some twelve years ago, the Department of Health in this State was reorganized—the old State Board of Health went out of commission and its place was taken by what is known as the State Department of Health today. One of the first duties that was placed before this new venture was the establishment of laboratories in which diagnosis could be made for the people of the State. It was necessary to have the very best man to start the operation—to conduct it and also to work along separate lines of research, and it is one of the great pleasures that I have of stating here to you that the State Department of Health, with the right view in mind, selected one of the representatives to go to New York, to look about elsewhere for a man that would be especially fitted for this task. How well Dr. Young accomplished his task it is hardly necessary for me to say, but it was he who brought to Lansing Dr. Reuben Kahn and from that day, now ten or eleven years ago, Dr. Kahn has been right here working in the State laboratory, and it is a source of especial pride to you of the legislature, to you of the City of Lansing, and to those of the State of Michigan, that Dr. Kahn was able to carry on, with laboratory assistants—to carry on the investigations which resulted in his perfection of a test—diagnostic test—which has received the approbation of the world.

It is a matter of only three years since he was called under the auspices of the World League to go to Copenhagen and, along with fourteen other men, to submit their special tests to a comparative experiment to find out what they had worked out —what results they gave. In that test it was found that his test was of the very best and, similarly, last year, he was called to Montevideo, where, again, a body of eleven

men, with different methods, compared their results, and he again gained the supremacy test of the best.

I have the very great pleasure of presenting to you at this time, Dr. Reuben L. Kahn, Director of the Hospital Laboratory at Ann Arbor. (Applause.)

DR. KAHN

Dr. Reuben L. Kahn: I wish to thank you for this honor conferred upon me. I wish to thank you very much. (Applause.)

GOVERNOR BRUCKER

Governor Brucker: Very modestly done, Doctor. Ladies and gentlemen, the last order of business on the program laid out on the joint convention of the legislature is that of a tribute by the Executive to the three personages we honor today.

I presume that words on my part are entirely superfluous at this hour, when we have seen and heard from these eminent scientists themselves. I presume it is not necessary to have any ceremony to honor these men who have become so well known in the field of science. I presume never in the history of the legislature of this State has pause been taken for the purpose of stopping the legislative machinery during the last few weeks of its session when it is so busy, to pay this tribute of respect to anyone other than a member of the State government directly. One might say almost a governmental function connected with the University of Michigan, but not connected with the legislative or executive branches of government and so there is something peculiar about this event that caused the pause which the legislature directed should be done, and that I think is the fact that regardless of the busy bustle of today, we do have time to recognize these things that are quietly done, that are accomplishments of progress without all the spectacular drama, all the noise and flamboyancy of brass bands, but for the quiet industry who accomplish the things of the world.

I think there is something fine and splendid about the presence of these gentlemen. They represent in stature perhaps the antithesis of science; they represent in science somewhat of a diversity, but they represent the personage of the men who come here to honor them; it groups together not only science and art but industrial genius, and so we pause — we of Michigan — a few moments, officially or otherwise, to pay this tribute of respect.

Today I would speak on the thought, in tribute to them, of the relationship of government and science. Science deals with exactness; it deals with precision, with accuracy. It deals with the things that are certain and definite; it deals with the things that are known and susceptible of important interpretation. It demonstrates itself through such instruments as the yard scale, the slide rule, measuring rod, arithmetical and geometrical formulas, and those things which are precise to a nicety and exact; which have boundary and limitation, which are circumscribed so the knowledge knows certain boundaries with which it is encompassed and beyond which man cannot go.

Government, on the other hand, is just the opposite. Comparable with science it might be said in an analysis of those two, Government is the inexact, the unprecise, the speculative, problematical, theoretical; it deals largely with perspective and with the personality of individuals; with the reaction on human nature and with such things as idealism, sometimes practical, sometimes impractical; with the enthusiasm, effort, and with things boundless in their scope without any limitation whatsoever, which are not susceptible of known knowledge but which, after all, must be a definite relationship called Science.

These things have gone together down through the ages. Science owes a deep debt of gratitude to Government. I did not reverse—I shall in a moment—but Science owes a deep debt of gratitude to the Government itself. In the early days before there was such a thing as a strong, central government, there was no such thing as a growth or progress in science. In those countries where a strong and stable government—in the days of antiquity—grew up, bossed by the mail fist or what not, government became so strong that anarchy was put aside and science was permitted to go forward and that all depended upon government while its people kept law and order, so the forerunner to science was government. It was the thing that sanctified the peoples to a degree and after that, after it was understood and settled, along came science but not before.

Science owes a good deal to government for its development in the amounts which have been appropriated from tax moneys in the days gone by to make possible the things, the laboratories, the hospitals, the places of clinical fame and so on. Government has been the basis of all that, and the stronger the government, the better able to cope with the questions of the day, the more this history shows did Science flourish.

But let us reverse this today. We are met to honor Science more than Government today. Government owes a debt of gratitude to Science that it can never fully repay. Science has made possible the growth, the development of happiness, health and welfare.

If government is firm for the purpose of mutual association, mutual benefit, for the sanctity and safety of our lives and all the rest, then the thing that has developed that more than all the rest has been the development in the field in the realm of Science itself. Science has made possible the growth of such projects as the Isthmus of Panama Canal, joining the two continents, or separating them, with that stream of water. Science has made possible all of that. As we have heard today in just a word from Dr. Novy, science has made possible the elimination of yellow fever. Science has made possible the prosecution of successful warfare in bringing about the immediate conclusion a great war such as the World war, once the troops got into action.

Science has contributed in so many ways, in both war and peace, that it ill becomes me today to dwell at length upon it. May I say just a word about the relationship of Science and Government? Hand in hand they have gone through the centuries and it is quite fitting and proper today that Science should bow its head to the blessings of Government, and Government should bow its head in recognition of the blessings of Science.

It has been said that specialization is the cry of today. I think it was Disraeli who said: "Constancy of purpose is the secret of success." If that be the case, certainly these gentlemen who are living examples of science today, tested by that yard-stick, show that there has been a constancy of specialization.

There are virtues and certain things that the government are not always appreciative of. Specialization resolves itself sometimes in isolation from the beautiful things of life to get into the groove or rut of one's own work. Nobody appreciates here today, certainly not the layman—I say nobody appreciates what Doctors Novy, Kahn and Gomberg have gone through, day after day, enthused and thrilled in what, going on until they have actually achieved success in isolating the germ and winning them fame in their chosen field.

What a special thing it must be to these men today to feel that a state as large as this State can pause its machinery in government, as it has done, to recognize that thing, recognize the toil that has been given for so many years in this thankless field of science; thankless for so many reasons, because no one of these men have commercialized upon their discoveries but have been willing to give them to humanity for the purpose of serving their fellowman. So you have exemplified in your industry and in your lives in the field of Science, gentlemen, the three things which are the indefinite paradoxical things in government but have brought very definite rewards of science. Your industry, your perspective; there was something in the pursuit of your business and the enthusiasm of the purpose with which you undertook it.

It is said that President Hoover, he and Mrs. Hoover years ago, wanted to get everything he could in engineering—get the last word of it. After exhaustive reading in the English tongue, finally found a Latin book on Ancient Engineering. Mr. and Mrs. Hoover sat down and read that book all the way through to find some little word that might be old, but new because of its present application. If that be so, may we not say that if any one of us were in the field of exactness and preciseness of science, in that field in which the exact quantity is known and the unknown is known to the extent at least, we should be happy, indeed, were we to have followed the gleam with such clear vision, with such persistence as to have the honor conferred on you, and I feel the time is opportune to have the records of these men read and I shall proceed to do so. Dr. Novy's record has been read somewhat at length, and of the other two I take the liberty to read this very concise statement.

(Reading) "Dr. Moses Gomberg, born in

Russia and received early education there. Entered the University of Michigan as freshman in 1886 and received B.S.U. of 1890; received D.S., 1894; Professor of Chemistry since 1904 at U. of M., although instructor since 1890. More than two thousand students have received instruction in organic chemistry from him.

During war worked on gas warfare under Chemical Warfare Service. Was commissioned Major in Ordinance Department. Was technical adviser in manufacture of smokeless powder and high explosives.

Discovered the elusive triphenyl-methyl and trivalent carbon.

Was awarded Nichols' Medal by American Chemical Society, 1914; Willard Gibbs' Medal, 1925, and Chandler Medal, 1927."

"Dr. Reuben L. Kahn, born in Lithuania in 1887. Studied at Columbia and Yale. Obtained D.Sc. degree, New York University. Has made one of most valuable contributions to science in the annals of modern medicine, the 'Kahn Test,' for syphilis. Has demonstrated test in most important health centers of the world and by invitation before League of Nations Health Committee. Later found Kahn test superior to all other methods, including the older Wassermann test, which had been standard in the past. Dr. Kahn's simpler, shorter and more accurate test now being put into general use throughout the world. Is Director Clinical Laboratories of the University Hospital and Assistant Professor of Bacteriology and Serology at University of Michigan. Was formerly immunologist with Michigan Department of Health."

Right over here at this State Office Building, within a block and a half, in the State Board of Health laboratories, was where this test was actually discovered, and applied by Dr. Kahn, contributing this time, not only as a time-server, not only as one who draws his check, but a man who had given his zeal and life in State service, typical today of a man who graduated from that, taken to the University of Michigan and is now employed in the clinical laboratories there, engaged on a test, I am informed by doctors, which, if successful, will revolutionize one portion of the field of science with reference to the health of our people—a very important disease and one that has taken its tens of thousands annually. May the good, beneficent Almighty grant that benediction to him upon the work he is engaged in now, in order that he may come back to this legislative assembly hall some day with the thrill that will come to him as having succeeded and nothing more.

He was offered by a large drug firm in this State to sell his test and equipment, some of it, to them. He could have become rich and world famous by reason of it. He disdained it and said: "No, I shall go on with my work; I shall give it to the world and humanity," and he is a poor man and because of it, I think there is something genuine—I think we can well pause to pay this tribute.

In war time, when men are decorated on the field of honor, the regiment is drawn up and the band marches up and down. They are called out by the Commanding Officer of Expeditionary Forces and there, in the presence of all, they are decorated with a priceless jeweled diadem of honor with the Distinguished Service Cross of our country. Were this England in an occasion of this kind, the King and Parliament would be together and, in the presence of them, someone would be knighted and someone would receive the title of Sir or Lord or something of that kind, or a rank fitting the occasion. In America, we do not believe in that, but we do believe in giving the distinguished honor that comes in point of service by speech or the friendly shake of the hand or nod of the head, with an eventual space or niche in the Hall of Fame and other places where people devote their lives to science and so today we pay our tribute of respect, not with the legions lined up in front, not with the dipping of the State Colors, but to have our legislature rise in joint assembly; to have our Supreme Court here, who are interested in the grandeur of Michigan, and all those who understand the greatness of our State, and we, members of the Government, and all others, pause to offer our humble and sincere tribute to you and your work. May you go on and continue to receive the beneficent results of your splendid tests in laboratories and otherwise, for a people who are appreciative, regardless of what is said to the contrary at times.

Won't you believe me, the Members of the House and Senate, Members of the Supreme Court and the Executive of the State, pause at this moment to give you this tribute of respect. (Applause.)

Lieut. Governor Dickinson: I cannot believe that there are many in this audience who would be satisfied, after all that has been said here today, if they did not hear a few words from Mr. Henry Ford.

Mr. Henry Ford arose and bowed, his only remark to those assembled being: "I thank you very much."

RESOLUTION

Secretary of the Senate Chase: The Senator from the Twenty-Fifth District, Mr. Lawson, offers the following joint resolution:

"A Joint Convention Resolution honoring and commending Dr. Frederick G. Novy for a distinguished life of service to science, which has brought distinction not only to himself but to the University and the State which he has served.

Whereas, Dr. Frederick G. Novy, a resident of the State of Michigan and Professor of Bacteriology in our State University, is an outstanding teacher and leader in his field, and

Whereas, Dr. Novy has devoted his entire life to medical research and to the teaching of medical science, and

Whereas, He established the first bacteriological department in any higher institution of learning in this country, and

Whereas, His efforts have been crowned with splendid results that have brought him an international reputation and the acknowledgment and respect of his colleagues throughout the world, and

Whereas, His achievements have redounded to the credit of the State University and the State of Michigan, now, therefore, be it

Resolved, That we, the members of the Senate and House of Representatives of the State of Michigan, in joint convention assembled, express the gratitude of the people of Michigan for the outstanding life of service which Dr. Novy has given to the State and to medical science, and be it further

Resolved, That these resolutions be spread upon the journal of the House of Representatives, and an engrossed copy thereof be presented to Dr. Novy."

Lieut. Governor Dickinson: The question is upon the adoption of the Resolution. All those in favor will signify by saying aye.

Unanimously carried.

Clerk of the House Gray: Representative Reed offers the following joint resolution:

"A joint Convention Resolution honoring and commending Dr. Moses Gomberg for his great contributions to chemical science.

Whereas, Dr. Moses Gomberg has since 1899 been Professor of Chemistry in the University of Michigan, and since 1893 an esteemed and devoted teacher of chemistry in the University, and

Whereas, Dr. Gomberg has, through his researches, achieved a place of national and international distinction in his chosen field, and

Whereas, Through the wide recognition of his attainments he has brought honor not only to himself but to the University and to the State which he has served, and

Whereas, Through his teaching, influence and investigations, Dr. Gomberg has materially added to the advancement of modern chemical science, which has made itself felt in industry, public welfare, and the advancement of learning, now, therefore, be it

Resolved, That we, the members of the Senate and House of Representatives of the State of Michigan, in joint convention assembled, give expression to the appreciation the people of Michigan feel for the distinguished service to science, to the University and to our State which Dr. Gomberg has rendered, and be it further

Resolved, That these resolutions be spread upon the journal of the House of Representatives, and an engrossed copy thereof be presented to Dr. Gomberg."

Lieut. Governor Dickinson: The question is upon the adoption of the Resolution. All those in favor will signify by saying aye.

Unanimously carried.

Secretary of the Senate Chase: Senator Upjohn offers the following joint resolution:

"A joint Convention Resolution honoring and commending Dr. Reuben L. Kahn for distinguished medical research.

Whereas, Dr. Reuben L. Kahn, a resident of the State of Michigan, while a member of the staff of our noted State Department of Health and with the assistance of that department and with the support of distinguished members of the faculty of our renowned State University, Professors Frederick G. Novy and Udo J. Wile, developed a blood test of great value in the diag-

nosis of a grave social disease; a test of such world-wide importance that the Health Committee of the League of Nations saw fit to bring Dr. Kahn to Europe in 1928 and to South America in 1930, where, at specially designated conferences, his test was placed in open competition with other leading methods known to the world and was found to be far more reliable, economical and rapid than all the other methods, and

Whereas, The Kahn test was thus established and at present is employed throughout the world and its constant and universal use reflects the appreciation of mankind for this great work of Dr. Kahn and has brought credit and glory to him and honor and fame to the State of Michigan, and

Whereas, Dr. Kahn could have derived great pecuniary reward from his test by commercializing the reagent employed in it, but preferred to give it to humanity without the slightest profit to himself and is still giving his service to the people of our state and humanity through his labors as Director of the Laboratories of our eminent State University where he is associated with other scientific workers of the front rank, and

Whereas, It is hoped that Dr. Kahn may be able to continue the all-important work of research with the same high level of accomplishment that has characterized his efforts in the past, now, therefore, be it

Resolved, That we, the members of the Senate and House of Representatives of the State of Michigan, in joint convention assembled give expression to the pride we people of Michigan feel not only for the splendid accomplishments of Dr. Kahn, but also for the ideals which have motivated his endeavors and have caused him to accept, in satisfaction of his work, a knowledge of service to humanity rather than of material reward, and be it further

Resolved, That these resolutions be spread upon the journal of the House of Representatives, and an engrossed copy be presented to Dr. Kahn."

Lieut. Governor Dickinson: The question is upon the adoption of the Resolution. All those in favor will signify by saying aye.

Unanimously carried.

Senator from the Fourth District: I move that the joint convention at this time adjourn.

Lieut. Governor Dickinson: You have heard the motion of the Senator from the Fourth. All those in favor will signify by saying aye.

Unanimously carried.

(Adjourned at 6:15 P. M.)

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